



TAKE CONTROL OF

iCLOUD

by JOE KISSELL

6th
EDITION

Take Control of iCloud (6.1)

Joe Kissell

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ISBN for EPUB and Mobi version: 978-1-947282-09-4

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Read Me First

Welcome to *Take Control of iCloud, Sixth Edition*, version 6.1, published in November 2018 by alt concepts inc. This book was written by Joe Kissell and edited by Tonya Engst.

iCloud is Apple's suite of internet services. This book helps you make sense of iCloud, configure it for your needs, and choose the best ways of using each feature.

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Updates and More

You can access extras related to this book on the web (use the link in [Ebook Extras](#), near the end; it's available only to purchasers). On the ebook's Take Control Extras page, you can:

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Basics

To review background information that might help you understand this book better, such as finding System Preferences and working with files in the Finder, I suggest reading Tonya Engst's book [Take Control of Mac Basics](#).

What's New in Version 6.1

Version 6.1 of this book is a relatively small update to cover a few changes in iCloud that have occurred since the previous version of the book was released in October 2017, and to make a handful of other corrections and improvements. This book now includes coverage of macOS 10.14 Mojave and iOS 12, plus the following significant changes:

- Added mentions of additional Apple apps that now sync using iCloud in Mojave and iOS 12: News, Stocks, Home, and Voice Memos; see [Major iCloud Features](#), [Sync Other iCloud Data](#), and [Sync Data from Other Apps](#)
- In [About Your Apple ID](#), referenced a new book, *Take Control of Your Apple ID*, by Glenn Fleishman
- Updated the sidebar [The All-Purpose iCloud Troubleshooting Procedure](#) with additional details

- In [Set Up iCloud on an iOS Device](#), clarified which devices support the Wallet feature
- Explained in [Use iCloud Family Sharing](#) that in-app purchases cannot be shared within a family
- Updated the chapter [Manage Your Photos](#) to cover the feature now named Shared Albums (called iCloud Photo Sharing in High Sierra and earlier, iOS 11 and earlier, and Windows)
- Added a note in [Activate iCloud Drive](#) about syncing System Preferences
- Expanded [Enable Desktop & Documents Folder Syncing](#) to describe in greater detail the steps to follow if you enable this feature on multiple Macs, and updated [Disable Desktop & Documents Folder Syncing](#) with more details as well
- Added a discussion about backing up files from iCloud Drive locally, and using the Unclouder app, to the sidebar [iCloud Drive and Backups](#)
- Clarified in [Use In-App Data Syncing](#) and [Sync Your Contacts](#) that Mail's VIPs and previous recipients sync as part of Contacts
- In [Use Mail Drop](#), noted that POP accounts aren't supported
- Added a description of how iMessage/SMS sync now works in [Sync Messages](#)
- Rewrote significant portions of the chapter [Work with iCloud Keychain](#) to cover new behavior in current versions of Safari

- Included a warning in [Activate Find My Device](#) about a simple way an attacker could potentially disable Find My Mac
- Noted in [Use Back to My Mac](#) that this feature has been removed from Mojave

What Was New in the Sixth Edition

This sixth edition covered changes in macOS 10.13 High Sierra and iOS 11, as well as significant feature changes in the iCloud service itself since the previous edition of the book was published in late 2016. Numerous topics were added and, in some cases, rearranged or rewritten—and there were hundreds of changes throughout the book. Here are the highlights:

- Explained what's new in iCloud since the last edition of this book; see [iCloud Feature Changes](#)
- Expanded the [Major iCloud Features](#) list to include newly added capabilities
- Updated [About iCloud Storage](#) and [Upgrade Your Storage](#) to reflect the new pricing for the 2 TB tier and the removal of the 1 TB tier
- Added a topic, [Share Storage Space](#), that explains how to share additional (paid) iCloud storage space with your family members
- Updated [iCloud Photo Library](#) to mention that it now syncs the People album
- Replaced the discussion of the iCloud Drive app for iOS with coverage of the new Files app, including how to

share files stored in iCloud Drive; see [Use the Files App for iOS](#)

- Added topics to cover new types of data you can now (or soon) sync via iCloud; see [Sync Data from Other Apps](#) and [Sync Messages](#)
- Brought the information in [Work with iCloud Keychain](#) up to date with the latest setup and usage instructions, including how to use credentials from iCloud Keychain in apps other than Safari
- Added AirPods to the list of devices you can find with [Find My Nouns](#) and mentioned that you can use iCloud to pair them, and then play sound to them, from your Apple TV in [Set Up iCloud Account Features](#)
- Updated [Use Two-Factor Authentication](#) and [Use App-Specific Passwords](#) to cover recent changes in Apple's policies for using two-factor authentication
- Changed [Check Activation Lock](#) to explain the new procedure that's now required to do this

Introduction

Anyone who has been using Apple devices for more than a few years has surely heard of—and most likely uses—iCloud, Apple’s collection of online services. Although iCloud, which launched in October 2011, replaced MobileMe (which, in turn, followed .Mac and iTools), it has morphed into something much different from its predecessors.

The basic concept of iCloud is that your documents, music, TV shows, movies, photos, contacts, calendars, passwords, and other data should propagate to all your devices so immediately and automatically that you never think about where your data is anymore.

But iCloud goes far beyond the concept of syncing. Many features you use on a Mac, iOS device, Apple TV, or Apple Watch want to involve iCloud in some way. You *can* use your Apple device without an iCloud account, but many common tasks will be more awkward or even impossible. And, from Apple’s point of view, why would you want to use a device without iCloud? Accounts are free, and the iCloud infrastructure makes everything work together much more smoothly.

That’s not to say iCloud always works smoothly! iCloud is great when it works, but it’s so complex that problems are bound to occur, and frequently do. Since Apple has made so much of your experience dependent on iCloud, network outages, software bugs, and server malfunctions can make the simplest tasks frustrating.

And what about privacy? You can sync your photos and videos instantly across all your devices—great! And the data from your iOS devices is automatically backed up to the cloud—great! And you can share anything with a couple of taps or clicks—great! But if someone guesses or finds your iCloud password, or you tap the wrong button by mistake, your private moments, your home address, and tons of other personal details could be plastered all over the internet. That’s no longer a hypothetical worry, and it can be front-page news when it happens.

Another sore spot is that, although iCloud is pretty good at keeping your own data in sync across your own devices, it’s less good at sharing data between users. Features like Shared Albums and Family Sharing are steps in the right direction, and they’re useful as far as they go. But you still can’t easily share a whole address book with your spouse, a folder full of mixed documents with a work group, or a keychain containing usernames and passwords with your family.

There’s also the question of hardware support. A handful of iCloud’s features are available in Windows, and a smaller subset can be used (after a fashion) on Linux and Android devices. But Apple is in the business of selling hardware, so it stands to reason that iCloud works best on Apple devices. Recent-vintage Macs, iOS devices (iPhone, iPad, iPod touch), Apple TVs, and Apple Watches offer the best support for iCloud.

In this thoroughly updated sixth edition of *Take Control of iCloud*, I focus on what I think of as the interesting parts of iCloud. I show you what iCloud is capable of, how to think about it, and how to put its key features to good use. In the process, I hope to expose you to useful capabilities you never knew existed. But I also

tell you how to keep private information secure (even if it reduces iCloud's utility), point out cases in which iCloud may not be the best tool, and occasionally mention other options you can consider.

iCloud is constantly changing. Therefore, I don't attempt to give you specific instructions for using every last feature—I'm confident that you can figure out how to send an email message or delete a contact, even if the exact steps change tomorrow. But I do try to help you grasp what iCloud is capable of and decide how best to use it.

For the most part, I assume your operating system(s) are recent—namely, macOS 10.13 High Sierra or later, iOS 11 or later, Windows 10 or later, and Apple TV software version 7.2.1 or later. I also assume that all your iCloud-connected apps (such as iTunes, Photos, and Pages) are up to date. Although I occasionally call attention to differences in operating systems, I don't give detailed instructions for using iCloud with older software.

iCloud Quick Start

Although you can skip around freely in this book to learn about the topics that interest you most, I encourage you to read (or at least skim) two early chapters—[Get to Know iCloud](#) and [Set Up iCloud](#)—before moving on to the rest. Those chapters provide important foundational information, without which much of the material later in the book may not make sense. But if you already read an earlier edition, you can start with [Catch Up with iCloud Changes](#) and then skip those foundational chapters.

Get started:

- Discover what's new in the last year or so—and do a quick [Storage Checkup](#) of your iCloud online data storage needs and costs—in [Catch Up with iCloud Changes](#).
- Learn about iCloud features in [Get to Know iCloud](#).
- Set up your Mac(s), PC(s), iOS device(s), and Apple TV(s) to use iCloud. See [Set Up iCloud](#).
- Get your family set up to share purchases, calendars, location data, and more. See [Use iCloud Family Sharing](#).

Keep your data in sync across devices:

- Apple has two cloud-based music services: Apple Music and iTunes Match. Learn how these services work and interact, and find details about iTunes Match in [Use iCloud Music Library](#).
- Use iCloud Photo Library to sync all your photos between Macs and iOS devices and with the cloud, My Photo Stream to put your recent photos on all your devices, and Shared Albums to share photos with other people. See [Manage Your Photos](#).
- Keep your documents and app data current everywhere using iCloud Drive and other forms of in-app syncing. See [Keep Documents and App Data in Sync](#).
- Make sure your major forms of personal data (email, contacts, and calendars) are automatically mirrored across all your devices. See [Keep Mail, Contacts, and Calendars in Sync](#).

- Learn about syncing data from other apps, including Messages, News, Safari, Siri, and more. See [Sync Other iCloud Data](#).
- Keep usernames, passwords, and credit card numbers in sync across devices, generate new random passwords, and edit your saved credentials as you [Work with iCloud Keychain](#).

Use the other iCloud features:

- Cut, copy, and paste from one device to another when you [Use Universal Clipboard](#).
- Access web-based versions of the core iCloud apps on nearly any platform. See [Use the iCloud Website](#).
- Locate a wayward Mac or iOS device, or find a friend or family member. See [Find My Nouns](#).
- Learn how iCloud can back up and restore crucial data from your iOS devices in [Back Up and Restore iOS Data](#).
- Apple TV owner? Find out which iCloud features your set-top box can use and how. Read [Use iCloud on an Apple TV](#).
- Access stuff on a faraway Mac (10.13 High Sierra or earlier). Read [Use Back to My Mac](#).
- Update your iCloud account details. See [Manage Your Account](#).
- Keep your account safe and protect your private data. See [Manage iCloud Security and Privacy](#).

Catch Up with iCloud Changes

If you've been using iCloud awhile—and especially if you read the previous edition of this book—you may be most interested in the bits that have changed recently. This chapter highlights the major changes you'll want to take advantage of, points you to chapters where I discuss those features in detail, and offers a suggestion about managing your iCloud data storage.

iCloud Feature Changes

Although iCloud itself didn't see any major changes when Apple released iOS 12 and 10.14 Mojave, a few apps picked up the capability of syncing data through iCloud (see [Sync Data from Other Apps](#)); in addition, Apple made a variety of changes to the user interface for certain iCloud features.

More significant changes took place in 2017 with the release of iOS 11 and macOS 10.13 High Sierra:

- **Shared storage space:** If you use iCloud Family Sharing, you can now share extra storage space at the 200 GB level or above with your family members; see [Share Storage Space](#).
- **Syncing People album:** iCloud Photo Library now syncs your People album across devices; see [iCloud Photo Library](#).
- **Files app:** A new app called Files replaced the iCloud Drive app in iOS; see [Use the Files App for iOS](#).

- **Messages sync:** As of iOS 11.4 and 10.13.5 High Sierra, iCloud can sync all your iMessage conversations in the Messages app across devices; see [Sync Messages](#).
- **Additional sync options:** You can now sync data from additional Apple apps among your devices using iCloud; see [Sync Data from Other Apps](#).
- **Two-factor authentication changes:** As of June 15, 2017, two-factor authentication is required if you want to access data from your iCloud account (such as email and calendars) using a third-party app. See [Use Two-Factor Authentication](#) and the topics that follow, especially [Use App-Specific Passwords](#).
- **Check Activation Lock change:** Although Apple no longer has a webpage that lets you check the Activation Lock status of any iOS device, there's still a way to get that information. See [Check Activation Lock](#).

Storage Checkup

Some iCloud features (especially Desktop and Documents folder syncing) eat into your storage quota quickly, but the cost of extra storage is low enough that it shouldn't be a hardship for most users to store as much data as they want. If you're still trying to make do with the 5 GB Apple offers for free, my professional advice is to *give up!* It's no longer worth the effort to avoid what could be a 99-cent monthly charge. (Even the top, 2 TB tier is now remarkably affordable at \$9.99 per month, and if you have that much space available, you may find interesting uses for it that hadn't occurred to you before.)

A backup of a single iOS device can easily surpass 5 GB, after all, and by the time you add saved email, files in

iCloud Drive, and other smaller bits of information, you're in for some frustration if you try to whittle the figure down to avoid paying a dollar a month. With upgraded storage, you can freely back up your iOS devices, add files to iCloud Drive, and so on, without worrying that you'll bump into your limit.

Note: I talk about what data Apple includes in your iCloud storage ahead, in [About iCloud Storage](#). I cover how to buy more storage in [Manage Your Storage](#).

In addition, if you and one or more other family members currently pay for storage, you can simplify your lives, and save a few bucks a month, by combining that storage. (For example, if you and your spouse each pay for 2 TB of extra storage but your combined data storage is only 1 TB, you can cut your monthly costs in half by sharing a single 2 TB plan.) See [Share Storage Space](#) for details.

Get to Know iCloud

Before you dive in and start setting up and using this mysterious thing called iCloud, you should take a few moments to get your bearings and understand what you're dealing with.

In addition to explaining what you can and cannot do with iCloud, this chapter discusses what you need to know [About iCloud System Requirements](#), [About Your Apple ID](#), and [About iCloud Storage](#).

What Is iCloud?

While iCloud has a few features in common with other online services such as Dropbox, Google Docs, and Microsoft Office 365, iCloud is designed to achieve different goals, making it more different from these services than alike. In fact, it's rather hard to put a finger on exactly what iCloud is.

iCloud doesn't have much...*thingness*. It's not a physical object you can touch, and it's not software you can install. It's not a website—at least, not entirely. You can't buy it, although you may pay for extra features. In fact, referring to iCloud as a single entity is misleading. The name iCloud is just an arbitrary label for a collection of features, services, settings, and APIs (application programming interfaces), joined by a thread of relying on communication over the internet between Apple devices (Macs, iOS devices, Apple TVs, and Apple Watches) and Apple's servers in the cloud.

Perhaps a more interesting question to begin with is “What is iCloud *for*?” I have a few answers to that one:

- **iCloud lets iOS devices stand alone.** Originally, the only way to move certain kinds of data on and off your iOS device was to connect it to a Mac or PC—at first, with a USB cable, and later, via Wi-Fi. The computer was required to activate the device; to back up or restore its data; to sync photos, music, movies, books, and apps; to transfer documents to and from certain apps; and to install iOS updates.

With iCloud, your iOS device can operate as a completely standalone product. If you don't have a Mac or PC to connect to, there must be some other repository for your data, and some other mechanism to get it to and from your device. iCloud serves those purposes, letting you transfer data to and from Apple's servers using either a Wi-Fi or cellular connection.

- **iCloud helps your devices integrate with each other.** If you have more than one digital device—say, two Macs; or a PC and an iPhone; or an iPhone, an iPad, and an Apple Watch; or an iPad and an Apple TV—it's only natural to want all your devices to share data.

With iCloud, syncing encompasses many kinds of data and requires less effort than before. In fact, the word “sync” almost becomes an anachronism; for the most part, iCloud pushes new or changed data almost instantly to all your devices. You can switch between devices with impunity, knowing your data is always wherever you need it.

- **iCloud replaces (some) local storage with streaming.** Related to the last point, iCloud reduces the need to keep all your important media on all your devices. As long as you have a good wireless internet connection, your Mac and iOS devices can now do what

the Apple TV has done for many years—fetch the content you want, in near-real time, from the cloud. This makes it practical to get by with less storage space. You no longer have to decide which content to put on which device; in a sense, everything can be everywhere, automatically. Yet you can still store local copies of crucial data for times when an internet connection is unavailable.

- **iCloud facilitates (limited) sharing.** Although sharing data between people has never been one of iCloud's strengths, iCloud does help you do certain kinds of sharing. For example, Family Sharing enables family members to easily share purchases, photos, a calendar and reminder list, location information, and more. iCloud Drive lets you send read-only or read-write links to selected files, or even permit others to collaborate with you in real time using iWork apps. And Mail Drop lets Apple Mail (on all platforms) send ginormous email attachments without overloading either the sender's or recipient's mail server.
- **iCloud increases security and convenience.** With Find My iPhone, iCloud lets you not only locate a wayward device, but if necessary, also lock it remotely or even erase its data securely. Find My Friends extends this concept to enable you to find *other* people with iOS devices. With Back to My Mac (in 10.13 High Sierra or earlier), you can use file sharing or screen sharing to connect to your Mac from a remote network, giving you one more reason not to worry about syncing files. And even if you find yourself without any Apple device at your disposal (unthinkable!), you can get to your email, contacts, calendars, and more (or find your wayward Mac or iOS device) from nearly any computer with an internet connection and a web browser.

Tip: If you're curious to know the extent to which Apple encrypts your iCloud data and what other privacy and security measures are in place, read Apple's article [iCloud security and privacy overview](#).

- **iCloud is infrastructure.** Apple designed iCloud to be mostly invisible; you shouldn't have to think much about iCloud from day to day. With everything working correctly, iCloud functions in the background, like your home's electrical wiring or plumbing, transporting the right bits to the right places without any manual intervention. You'll notice iCloud's effects—increased ease of use, less aggravation, more flexibility—even if you're not conscious of interacting with it deliberately.

Major iCloud Features

iCloud is bound to gain and lose features as time goes on, and as Apple's hardware and software evolve. But as of October 2018, here are its major features, all of which I discuss later:

- **Media syncing:** Even without iCloud, you can buy music, apps, or books from Apple on any Mac, PC, or iOS device and have them automatically pushed to all your other devices. You can also re-download previously purchased media (including TV shows and movies) from any of your devices. Apple refers to these two features collectively as “iTunes in the Cloud.”

An optional paid feature, iTunes Match, extends iTunes in the Cloud to work with music from sources other than the iTunes Store. iTunes Match is separate from Apple Music (if you subscribe to Apple Music, you need not pay separately for iTunes Match), but both use

something called iCloud Music Library to sync tracks across your devices. See [Use iCloud Music Library](#).

- **Family Sharing:** iCloud Family Sharing lets families of up to six people link their individual accounts in a way that gives each person access to most apps and media purchased by the others; a shared calendar, reminder list, and photo album; and location information. Family members can use a single credit card for all Apple media purchases, and children can use the Ask to Buy feature to get parental approval for downloads. And if you've purchased 200 GB or more of storage for your iCloud account, you can even share that space with other family members. See [Use iCloud Family Sharing](#).
- **iCloud Photos:** Continuing with the theme of automatically propagating data, iCloud Photo Library lets you sync all your photos and videos (and now, even your People album) across all your Apple devices. A feature called My Photo Stream pushes new photos (but not videos) you take with your iOS device, as well as photos you import from your camera onto your computer or iOS device, up to the cloud and then down to other devices. My Photo Stream works with Photos, iPhoto, or Aperture on a Mac, as well as on Windows—but it's otherwise more limited than iCloud Photo Library. Shared Albums extends the photo stream concept, allowing you to share albums (containing photos and/or videos) with others and stream photos from iCloud to an Apple TV. And starting in Mojave and iOS 12, you can also share individual photos or videos. See [Manage Your Photos](#).
- **Syncing documents and app data:** iCloud Drive provides centralized cloud storage for your documents, synced automatically across your devices, making those

documents available from within supported iOS and Mac apps, the Mac's Finder, and the Files app in iOS. It's not quite like Dropbox, but it's in the ballpark. In addition, some Mac and iOS apps that don't use documents per se can take advantage of iCloud's infrastructure for storing and syncing other data, such as preferences and database entries. See [Keep Documents and App Data in Sync](#).

- **Desktop and Documents folder sync:** Starting in 10.12 Sierra and iOS 10, iCloud Drive gained an additional capability: it can sync the Desktop and Documents folders from a Mac running Sierra or later to Apple's servers, and from there to other Macs (as well as making all that data available on your iOS device and in the iCloud Drive web app on the [iCloud website](#)). And, it can optionally delete older files from your Mac's disk if you start running low on space, while enabling you to download them again later whenever you need them. See [Sync Your Desktop and Documents Folders \(or Don't\)](#).
- **Calendar, Contacts, Home, Mail, News, Notes, Reminders, Safari browser data, Stocks, and Voice Memos:** With this set of apps and services, iCloud keeps your personal data in sync between your devices, and lets you access much of this data from any web browser. In addition, Mail Drop, a feature in Apple Mail for macOS, iOS, and the Mail web app, uses iCloud to simplify sending large attachments. See [Keep Mail, Contacts, and Calendars in Sync](#) and [Sync Other iCloud Data](#).
- **Messages in iCloud:** Starting with High Sierra and iOS 11, iCloud can sync all your iMessage and SMS

conversations from Messages across your devices. See [Sync Messages](#).

- **Other app data:** You can sync Siri across your devices, so that what Siri learns about you on one device can inform its responses to you on other devices. And, in iOS 11 or later, you can sync data from the Health app (iPhone only) to other devices. See [Sync Data from Other Apps](#).
- **Universal Clipboard:** Merely by having multiple Macs and iOS devices signed in to the same iCloud account, you can copy or cut something on one device and paste it on another. (Previously, Universal Clipboard worked between a Mac and an iOS device, but not between two Macs; now it works either way.) See [Use Universal Clipboard](#).

Continuity and iCloud

Apple considers Universal Clipboard to be part of [Continuity](#), which also includes Handoff, support for cellular calls and SMS/MMS on Macs and iPads without cellular radios, Instant Hotspot, Auto Unlock (which lets an Apple Watch unlock a Mac), and—starting in Mojave and iOS 12—Continuity Camera (which lets you take a photo or video with your iOS device and insert it instantly into a Mac app). Although it's unclear to me whether Apple regards the Continuity features as part of iCloud per se (for example, they're not mentioned on Apple's [What is iCloud?](#) page), they all require users to be signed in to the same iCloud account on the various devices involved. Scholle McFarland covers other Continuity features in [Take Control of Mojave](#).

- **iCloud Keychain:** iCloud Keychain is a way of securely keeping passwords, credit card numbers, and account

information in sync among devices. iCloud Keychain includes other features, too, such as a random password generator built into Safari. And, as of iOS 11, third-party apps can also be updated to access items in your iCloud Keychain. See [Work with iCloud Keychain](#).

- **iCloud.com:** Apple's [iCloud website](#) contains web apps, accessible from nearly any browser, that let you work with many types of data—email, contacts, calendars, reminders, notes, photos, and iCloud Drive documents—as well as web-based versions of Pages, Numbers, and Keynote. See [Use the iCloud Website](#).
- **Find My *Device* and Find My Friends:** Find My iPhone (or iPad or iPod touch) shows you the exact location of any of your iOS devices, while Find My Mac does the same for your Macs; you can even remotely lock or wipe any of these devices. (I refer to all these services generically as “Find My *Device*.”) Find My Friends lets you locate friends—via their iOS devices or Series 3 or later Apple Watches—who have given you permission to follow them. (I use the even-more-generic “Find My Nouns” to refer to all the finding services generally.) See [Find My Nouns](#).
- **iCloud Backup:** iCloud securely—and automatically—backs up all the personal data from your iOS devices to Apple's servers and lets you restore it over the air. See [Back Up and Restore iOS Data](#).
- **Apple TV:** Your Apple TV can access not only any media you purchased on your other Apple devices but also your iCloud Music Library, iCloud Photo Library, My Photo Stream, and photo streams shared with you by others. See [Use iCloud on an Apple TV](#).

- **Back to My Mac:** With Back to My Mac (in High Sierra or earlier), you can use file sharing and screen sharing on a local Mac with a remote Mac, even if the remote Mac is behind a router or gateway that uses NAT (network address translation). See [Use Back to My Mac](#).

Peer-to-Peer Networking

iCloud has another useful capability that Apple hasn't publicized much. In the PDF document [OS X Mountain Lion Core Technologies Overview](#) (still relevant for newer operating systems), Apple says: "iCloud detects when you have multiple devices on the same local network, and it copies the content directly between them rather than going through the cloud. It eventually copies the content to the cloud, as well, to enable remote access and backup."

That means you won't waste your internet bandwidth downloading data that's already on another local device—plus copying that data will be quicker over your local network.

About iCloud System Requirements

Since iCloud is a heterogeneous collection of services and capabilities, it doesn't have a fixed set of system requirements. Some aspects of iCloud require at least iOS 12, 10.14 Mojave, Windows 10, or a fourth-generation Apple TV or Apple TV 4K with tvOS 12 or later; although many services are supported as far back as iOS 5, 10.7.5 Lion, the second-generation Apple TV, or Windows 7. Other parts of iCloud are accessible from nearly any web browser or from any of numerous third-party apps.

Of course, Apple would prefer you to have the latest version of everything (and, as I mentioned in the [Introduction](#), this book largely assumes that you do), but the fact that you're still running 10.6 Snow Leopard, for example, doesn't mean iCloud will be entirely useless to you. After all, many features are available in a web browser. For full compatibility details, see Apple's [System requirements for iCloud](#) page.

One thing that page doesn't tell you, however, is what you'll need to access email, contacts, and calendars using third-party client software. So here are the details:

- **Email:** Any IMAP client with SSL support, on any platform, should be able to connect with your iCloud email account. The server addresses may be different from what you expect, however; see the sidebar [Access iCloud Mail with Other Email Clients](#).
- **Calendars and Contacts:** iCloud uses standard protocols—CalDAV and CardDAV—for calendars and contacts, respectively. However, for reasons that aren't entirely clear to me, not all CalDAV and CardDAV clients can connect to iCloud accounts.

[BusyCal](#) and [BusyContacts](#) are the only third-party Mac apps I'm aware of that can connect to iCloud for calendar and contact syncing, respectively. Under Windows, [eM Client](#) also supports iCloud calendars and contacts.

About Your Apple ID

In order to use iCloud, you need a username called an *Apple ID*, which identifies you across numerous Apple products

and services. You probably already have one, and if not, it's easy (and free) to get one.

Tip: For far more detail on understanding and managing Apple IDs than I can provide here—including extensive troubleshooting help and guidance on using two-factor authentication—see Glenn Fleishman's book [*Take Control of Your Apple ID*](#).

Although Apple once allowed any unique name to be an Apple ID, today, Apple IDs are email addresses. If you already have an email address ending in @icloud.com, @me.com, or @mac.com, that's an Apple ID for sure. If you used a different email address when buying something from Apple, registering for an Apple developer program, or using any of several other Apple services, that address is also an Apple ID. If you aren't sure whether you have an Apple ID or whether a certain address is an Apple ID, you can check at the [Apple ID “iForgot” site](#).

That's all fairly straightforward, but iCloud's reliance on Apple IDs has several consequences that may not be apparent—for example, you might have more than one Apple ID and not know which one to use for iCloud, or you might share an Apple ID with someone else. Read on to find out what to do about cases like these.

What If I Have Multiple Apple IDs?

In a perfect world, each person would have exactly one Apple ID, all the person's data and purchases would be associated with it, and the question of which Apple ID to use where wouldn't come up. However, for a variety of reasons, a great many people have accumulated more than one *personal* Apple ID over the years.

Note: People who were members of MobileMe or .Mac may have me.com, mac.com, and/or icloud.com addresses with the same characters before the @ sign. Apple regards those variants as identical; use any of them to sign in to iCloud. But read the sidebar [Apple IDs with Multiple Email Addresses](#), ahead, for qualifications.

Apart from the clutter of multiple accounts and having one's data in several places, there's one big practical problem with having multiple Apple IDs. Whereas you can copy personal data, such as contacts and email messages, from one account to another, you can't do the same thing with *purchases*. Once you've made a purchase from Apple with a given Apple ID, the purchase is tied to that ID permanently. You can't transfer a purchase to a different Apple ID, and you can't merge two Apple IDs in order to consolidate your purchases into one account.

iCloud Family Sharing (see [Use iCloud Family Sharing](#)) mostly erases the irritation of purchases under multiple Apple IDs within a family. Each person signs in with an individual Apple ID, but because they're all linked (up to six of them), each family member can access purchases the others have made.

But if Family Sharing isn't appropriate for your situation—namely, you need to share purchases with someone who's not in your family—you can often work around the problem. Although iTunes, the Mac App Store, the iOS App Store, and the iBooks Store can each log in with only one Apple ID at a time, you can switch between IDs without losing any content. In the relevant app, find the Sign Out button or menu command, and then sign back in with the other account. Note that doing so requires you to know (or have someone else enter) the password for the other account.

Some people have multiple personal Apple IDs because they have more than one iCloud account that they need to keep separate—perhaps a home account and a work account, or a personal account and a club account. It is possible to sign in to multiple iCloud accounts on a Mac at the same time, although as I explain ahead shortly, doing so carries a few restrictions.

What If I Share an Apple ID with Someone?

Apple expects Apple IDs (and iCloud accounts) to be one per person—indeed, the very design of most iCloud features assumes this will be the case, and as a result, if you try to share an iCloud account with someone else, all sorts of undesirable things can happen. Nevertheless, many people do share a single account with a spouse, an entire family, or another group. Although I’ve met couples who truly do want to share *everything* in common, including email, the most common reason for sharing Apple IDs apart from consolidating purchases (for which purpose you should now [Use iCloud Family Sharing](#) if possible) is sharing contacts. Because iCloud doesn’t offer any form of contact sharing, some people have an extra iCloud account for the express purpose of adding it to multiple users’ devices in order to achieve the effect of shared contacts without having to share *all* data.

I explain just ahead how to handle a shared Apple ID. But even if you do have a shared account, you should *also* have an individual account—partly to keep your personal settings separate from those of other family members and partly to avoid syncing errors and a wide variety of random problems that can occur when a shared accounts is also each person’s *primary* account. If you have *only* a shared account, you should create an individual account for yourself when setting up iCloud.

Which Apple ID Should I Use for iCloud?

All that said, which Apple ID should you use when you set up iCloud? Here are my suggestions. If you have...

- **A single, *personal* Apple ID:** That's the one to use—Done!
- **A single, *shared* Apple ID:** Create a new Apple ID for yourself. Afterward, you can go to System Preferences > Internet Accounts and add the shared Apple ID as a secondary account (see [Work with Multiple iCloud Accounts](#)).
- **Multiple individual Apple IDs:** Use the Apple ID associated with whichever you consider your primary or personal account—the one that contains most of your data. Later, you can go to System Preferences > Internet Accounts (or, in iOS, Settings > Accounts & Passwords > Add Account) and add one or more secondary iCloud accounts—for example, to sync shared contacts or to provide access to another email account.

Note, however, that any iCloud account you sign in to after the first one can be used on that particular device only for email, contacts, calendars, reminders, and notes; it can't access Safari data, iCloud Photos (iCloud Photo Library, My Photo Stream, and Shared Albums), iCloud Drive, iCloud Keychain, Find My Mac, or Back To My Mac. (I say more about this later, in [Use Multiple iCloud Accounts on a Mac](#) and [Work with Multiple iCloud Accounts](#).)

So, for example, if you wanted to share iCloud contacts with your spouse, the ideal way to do so would be for each of you to configure an individual iCloud account on

your respective devices, which then becomes the primary account for each device—and then set up another iCloud account, just for contacts, which each of you adds as a secondary account on each device (see [Share Your Contacts with Someone Else](#)). You could, in theory, do the same thing with notes, but for any other data type, this sort of sharing either won't work at all or is highly likely to cause problems.

Note: If you're the organizer for an iCloud Family Sharing group (see [Use iCloud Family Sharing](#)), you should enter the Apple ID associated with Family Sharing as your primary iCloud login.

- **A personal Apple ID *plus* a separate Apple ID you've used for shared purchases:** The best way to handle this is to use only your personal Apple ID, set it up to use your preferred credit card, and add other family members to iCloud Family Sharing. If that won't work in your situation—for example, if you use a business credit card for purchases—enter your personal Apple ID during iCloud setup. Later, you can open iTunes (and the Mac App Store and iBooks) and sign in with the other Apple ID you use for purchases.

Note: Game Center, FaceTime, and iMessage also use Apple IDs, but these services are not part of iCloud, so if you prefer, you can use a different Apple ID for them than you do for iCloud.

- **One or more Apple IDs, but *not* an iCloud account:** Use your Apple ID (or, if you have more than one, the ID that you've made the most purchases with), and in the process of setting up iCloud (and thus turning your Apple ID into an iCloud account) you will

be prompted to provide additional information, such as selecting an email address in the icloud.com domain.

- **No Apple ID:** If you have never had an Apple ID at all—unlikely, I realize, for users of Apple products—you can create one now at the [Apple ID site](#). (You can use the same URL to change your password or other Apple ID details, should the need arise.)

Apple IDs with Multiple Email Addresses

It has always been possible to associate additional email addresses with any Apple ID. These can serve a number of purposes, but the most important one is that extra addresses give Apple another way to verify your identity and give you access to your account if your main address changes (for example, if you used your work address and you leave your job).

That's all well and good, but it leads to a subtle yet common problem. If you try to sign up for a new Apple ID using an email address that has already been added as an alternative address to another Apple ID, you'll get an error message—Apple doesn't allow this. You must first remove an email address as an alternate from all other Apple IDs before using it for a new one.

The tricky part is that Apple offers no surefire way to determine which Apple ID(s) any given email address is associated with. You can use Apple's [Find Apple ID](#) page to try to determine any existing Apple IDs you may have, and then look through each of those for the email address in question, but in my experience, this process has been hit-or-miss.

About iCloud Storage

Each iCloud account includes 5 GB of free storage space, and you can buy more if that's not enough. [Prices vary by location](#); in the United States, you can upgrade to 50 GB for \$0.99 per month, 200 GB for \$2.99 per month, or 2 TB for \$9.99 per month. It's a good thing that prices are so reasonable, because that free 5 GB doesn't go very far.

Many types of data don't count against that 5 GB limit. For example, purchases from the iTunes Store—music, TV shows, movies, apps, and books—don't take up any of your personal space, because Apple already has copies of that data on their servers. Photos in My Photo Stream and those you've shared with Shared Albums don't count either, no matter how many you have or what their resolution is, presumably because that data stays in the cloud only temporarily (I explain this in [Manage Your Photos](#)). Email attachments sent with Mail Drop (see [Use Mail Drop](#)) also don't count against your quota.

What *does* count against your storage quota is documents (including everything kept in iCloud Drive), the contents of your iCloud Photo Library, iCloud email (including attachments sent *without* Mail Drop), and—if you've enabled iCloud Backup—each of your iOS devices' personal settings, app data, locally stored photos, and a few other items that would appear at first glance to occupy little space altogether.

Those backups can require more iCloud storage than you might think. For example, at this moment my iPhone uses 9.4 GB of space for iCloud backups and iPad mini uses 8.9 GB—and remember, that's for data that isn't already on Apple's servers somewhere. A backup of either of those devices alone puts me well over the 5 GB limit, and I have

other data I need to store in iCloud. (iCloud doesn't require you to back up iOS devices to the cloud; you can back them up to your Mac or PC via iTunes if you prefer).

Note: In the likely event that you want to understand the specifics of what's taking up space in your iCloud storage or you want to buy more storage, see [Manage Your Storage](#), later.

Set Up iCloud

iCloud setup, in and of itself, is easy and largely self-explanatory—you enter your Apple ID and password, and click a few buttons, on each of your devices. There’s no software to install on a Mac or iOS device (assuming you already have a recent version of the operating system) and only a few options you can turn on or off. You have to go through a few more steps, but only a few, under Windows.

However, you may encounter questions about certain settings, wonder how to handle multiple iCloud accounts, or need help disabling iCloud. So in this chapter I walk you through those topics for Macs and iOS devices. (The Apple TV is covered later, in [Use iCloud on an Apple TV](#). And, for help with the iCloud website, see [Use the iCloud Website](#).)

If you’ve already set up iCloud, you can skim most of this chapter, starting with [Set Up iCloud on a Mac](#)—just to make sure you’ve enabled all the features you may want to use.

Update Your Software

If you want to access all the latest iCloud features, make sure the Apple software that uses iCloud is up to date on each platform you use. Here’s what you need to do:

- **iOS:** For any iOS device you haven’t already upgraded to iOS 12 or later, tap Settings > General > Software Update and follow the prompts to install the latest update.
- **Mac:** Choose Apple  > App Store and click Updates. If newer versions of macOS, Photos, iTunes, or the iWork apps (Pages, Numbers, and Keynote) are found, follow the prompts to install them. In particular, be sure to

install 10.14 Mojave—a free upgrade—if you have not already done so and your Mac supports it. (If you are contemplating a major upgrade from an earlier version of macOS, look for steps in my book [Take Control of Upgrading to Mojave](#).)

- **Windows:** Download and install the latest version of [iTunes](#); if you have a previous version installed, you can use Start > Apple Software Update.

Then download [iCloud for Windows](#) and run [iCloudSetup.exe](#); or, if it appears in Apple Software Update (because you had a previous version of the iCloud app installed), install it from there.

- **Apple TV:** For information on updating the Apple TV software, see Apple's article [Update the software on your Apple TV](#).

Set Up iCloud on a Mac

Your Mac may already have prompted you to set up iCloud (in which case, just skim this section to make sure everything is configured to your liking). If not, you can set it up manually. The exact sequence of steps depends on your circumstances.

Note: Each user account on a Mac can have its own iCloud account, although only one account per Mac can use Find My Mac at a time. In addition, you can (with some limitations) set up multiple iCloud accounts within a single user account; for more on such configurations, see [Work with Multiple iCloud Accounts](#), later in this chapter.

For the sake of illustration, I'll show you what to do under Mojave if you ignored any prompts to set up iCloud earlier. What you see under earlier versions of macOS may differ slightly:

1. Go to System Preferences > iCloud.

The window shows Apple ID and Password fields (**Figure 1**). Enter the Apple ID you want to use (see [About Your Apple ID](#) for more details) and your password and click Sign In. (In the unlikely event that you don't yet have an Apple ID, click Create New Apple ID and follow the prompts to create one now.)



Figure 1: Before you can use the iCloud preference pane, you must sign in with your Apple ID, or create a new one.

2. The iCloud Terms of Service may appear. If so, agree to them. In some situations, you may also be prompted to enter the password for your Mac's user account; if so, enter it and click OK.

Your Mac asks (**Figure 2**) if you want to enable a commonly used set of services (contacts, calendars, reminders, notes, Safari bookmarks, iCloud Keychain, documents—*not* including your Desktop and Documents folders by default—and mail, even though it's not explicitly mentioned in the list) and, separately, if you want to use Find My Mac.


 **Figure 2:** You can set up most iCloud services without any further effort by clicking Next here.

Figure 2: You can set up most iCloud services without any further effort by clicking Next here.

3. Most people will want to use all of these, so unless you have a particular reason not to, leave both checkboxes selected and click Next. If you're prompted to enter your password to set up iCloud Keychain, do so. Then, if you selected Use Find My Mac, click Allow to confirm that it can use your Mac's location.

You may also be asked to take an additional step to enable iCloud Keychain—entering your password and then either entering your iCloud security code or requesting approval from another device (see [Enable and Configure iCloud Keychain](#)).

The full iCloud pane opens (**Figure 3**). If you left both checkboxes selected earlier in this step, all the corresponding categories will already be enabled.



iCloud

Search



Joe Kissell

jwk@icloud.com

Account Details

Manage Family

Sign Out



iCloud Drive

Options...



Photos

Options...



Mail



Contacts



Calendars



Reminders



Safari



Notes

You have 200 GB of iCloud storage.

Photos and Videos



66.96 GB Available

Manage...

Figure 3: Here's where the magic happens—by which I mean, here's where you select checkboxes to turn on iCloud services. Most should already be checked (which is fine). Your picture may differ slightly depending on which version of macOS you're using.

Tip: Back to My Mac and Find My Mac expect Wake for Network Access (or Wake for Wi-Fi Network Access) to be checked in the Energy Saver pane of System Preferences. To avoid alerts about that, enable Wake for Network Access (or Wake for Wi-Fi Network Access), if you haven't done so already, before turning on Back to My Mac or Find My Mac.

4. Select or deselect checkboxes to specify the types of data you want to manage with iCloud. (If you stuck with the default selections to this point, you'll likely find that only Siri and Back to My Mac are now deselected.) Unless you have some special reason to avoid one of these, I suggest selecting them all.

If you never previously set it up, Keychain requires an additional series of steps to set up, beyond merely selecting its checkbox. If you want to set it up now, flip ahead to [Work with iCloud Keychain](#) for instructions. Or leave it deselected for the moment and return to it when you're ready.

5. When you're satisfied with your settings, close System Preferences.

iCloud is now activated on your Mac, although you must take further steps to use the iTunes-specific features (see [Use iCloud Music Library](#)). Repeat this iCloud configuration process for any other user accounts on your Mac, as well as for any other Macs you may have, and then move on to set up your other devices.

THE ALL-PURPOSE ICLOUD TROUBLESHOOTING PROCEDURE

I've read countless stories of people having problems of one sort or another with iCloud, and I've experienced my share of glitches too. Some problems go away all by themselves, as Apple fixes bugs or corrects server outages. But one theme has emerged consistently: when nothing else works, signing out of iCloud and then signing back in usually does.

You might suppose that if you're having trouble with, say, iCloud Drive or Keychain, turning just that one feature off and back on in System Preferences > iCloud might do the trick. Indeed it *might*—and it's worth a try—but it often doesn't work. For whatever reason, even if just one feature is acting up, the most reliable solution seems to be starting over from scratch. Fortunately, that's pretty quick and easy—not nearly as scary as it sounds:

1. Go to System Preferences > iCloud (Mac) or Settings > *Your Name* (iOS).
2. Click or tap Sign Out. You'll have to respond to a long series of prompts asking whether various data should be kept on your device or deleted. Answer however you like; we'll be restoring all that data in just a moment, anyway. (Note, though, that re-uploading photos can in some cases be a time-consuming operation; see Adam Engst's TidBITS article [Bad Apple #1: iCloud Photo Library Re-uploading](#).)
3. On a Mac, choose Apple  > Restart; on an iOS device, turn off the device and then turn it back on. (Really! Don't skip this step.)
4. Return to System Preferences > iCloud or Settings > *Your Name*, and sign back in.
5. Reenable all the iCloud features you want to use.

In rare cases, you may need to do steps 1–3 on *all* your devices, and then sign back in on all of them. It's a bit of a bother, but it usually takes just a few minutes to get everything back to the way it was (except your photos, which may take longer), and more often than

not (but no guarantees!), the process will solve random iCloud problems.

Set Up iCloud under Windows

After you install iCloud for Windows (see [Update Your Software](#)), you can configure it with just a few steps.

The iCloud app may open automatically after you install it. If not, to walk through the whole setup process from the point that the iCloud app is installed, do this:

1. Locate the iCloud app in the Start menu and open it. Enter your Apple ID and password, and click Sign In. If you turned on two-factor authentication or two-step verification (see [Use Enhanced Security Features](#)), follow the prompts to verify your login.

The application should look something like **Figure 4** (though the storage indicator may be empty if you haven't yet migrated any other devices, and other services may be checked or unchecked).



Figure 4: The iCloud app is now ready for your selections.

Figure 4: The iCloud app is now ready for your selections.

2. For each service you want to enable—and unless you have a special reason not to, I suggest enabling them all—select the corresponding checkbox. However, note the following:
 1. After turning on Photos, you can click its Options button for several additional settings. First, you can select iCloud Photo Library (to turn on automatic uploads and downloads of photos and videos); if you do so, you can then individually select or deselect Download New Photos and Videos to My PC and Upload New Photos and Videos from My PC (and select default folders for each). You can also select My Photo Stream (upload and download just recent photos) and iCloud Photo Sharing (to share photo streams with others and view photo streams others have shared with you), and you can specify a different iCloud Photo Sharing folder, if you don't want to use the default folder (`C:\Users\your username\Pictures\iCloud Photos\Shared`). Click Done when you're done.

2. Mail, Contacts, Calendars, and Tasks can sync only with Microsoft Outlook 2007 or later. If you don't have Outlook installed, this item will be disabled (and you'll see an alert that you need to install Outlook to use them), though you can still access them from a web browser. When you next open Outlook, you may be asked for your iCloud password one or more times.
3. When you select Bookmarks, an alert appears confirming that you want to merge your local bookmarks with any bookmarks already in iCloud. Click Merge. If the Bookmarks option is set to Internet Explorer and you prefer Firefox or Google Chrome (or any combination of these), then after turning on Bookmarks, click the Options button next to it, select the desired browser(s), and click OK. You'll be prompted to install iCloud extensions for Firefox or Google Chrome.

Note: iCloud no longer supports syncing bookmarks with the Windows version of Safari.

3. Click Apply to activate the selected services. Depending on the options you selected, various other windows and processes may open as iCloud completes its setup process and transfers your data. You may have to click Done to dismiss a progress window or two.
4. Click Close to close the iCloud app.

iCloud is now running in Windows. You must take more steps to use the iTunes-specific features (read [Use iCloud Music Library](#)).

Set Up iCloud on an iOS Device

On an iOS device, proceed with the following tasks:

1. Tap Settings > Sign in to your *Device*. (After you sign in, you'll instead see your name in this spot.)
2. Enter your Apple ID and password, and tap Sign In. If you have two-factor authentication enabled, follow the prompts to enter your verification code. You may also be prompted to enter your device's passcode and, in certain situations, respond to other alerts.
3. Tap iCloud. In the list of services and apps that can sync data with iCloud (**Figure 5**), most should already be on (shown by a green switch). To toggle any service or app, tap its on/off switch.


 Figure 5: Turn each iCloud service on or off here (top shown on left; next portion on right). Options may vary by device and iOS version.

Figure 5: Turn each iCloud service on or off here (top shown on left; next portion on right). Options may vary by device and iOS version.

Most people will want to have all the apps and services turned on; as the book progresses, I discuss these in more detail, but a few items that you may want to pay attention to now include these:

1. For the most part, the apps and data types that appear above iCloud Drive in the list are those that use iCloud, but don't store their data as files visible in iCloud Drive. To prevent any of these items from syncing with iCloud, turn its switch off.
2. To turn iCloud Drive on or off, tap its on/off switch. You can also enable or disable iCloud Drive syncing for each supported app; apps appear below the iCloud Drive switch.
3. To turn on or off any iCloud photo syncing service—iCloud Photo Library, Upload to My Photo Stream, or Shared Albums (iOS 12 or later) or iCloud Photo Sharing (iOS 11 or earlier)—tap Photos (see [Manage Your Photos](#) for further details).
4. The Home switch lets iCloud sync settings from the Home app (for smart home products) across your iOS devices. But Home is not otherwise part of iCloud, so I don't cover it in this book.
5. The News switch enables data for the News app (such as favorites, history, and saved stories) to sync among your iOS devices. News itself is not an iCloud feature, however, so I have nothing more to say about it in this book.
6. The Health switch lets you sync data from the Health app (on an iPhone only) with the cloud and with other iPhones you own.
7. The Wallet switch appears only on the iPhone and iPod touch, and lets you sync wallet items (such as Apple Pay credit cards, loyalty cards, concert tickets, and coupons) among multiple devices. Because Wallet as such isn't an iCloud feature, I don't discuss it here.
8. The Siri switch enables information Siri learns about you on one of your devices to be shared with the others, to improve the quality of its responses.
9. The Keychain item, which controls iCloud Keychain, may require more than just a tap or two

to configure. For full instructions, flip ahead to [Work with iCloud Keychain](#).

10. If you want to back up your iOS device to iCloud from now on rather than via iTunes, set iCloud Backup to On. (I say more about iCloud Backup later, in [Understand How iCloud Backup Works](#).)

4. Your current storage statistics for iCloud Drive appear at the top of the screen. To get more detail about what's backed up using iCloud Backup, or delete the backed-up data for any app, tap Manage Storage. (See [Activate and Configure iCloud Backup](#) for details.)

iCloud is now set up on your iOS device, but to use iTunes Match or any of the other iTunes-related features you must take more steps, as I describe in the next chapter. If you have any other iOS devices, repeat these steps with each one now.

LOCAL SYNC FOR CONTACTS AND CALENDARS

iTunes also offers the option to sync contacts and calendars directly between an iOS device and a Mac via a USB or Wi-Fi connection—without going through the cloud (whether iCloud or another service).

First, on your iOS device, go to Settings > *Your Name* > iCloud and turn off Contacts and/or Calendars. Next, in iTunes, select your iOS device, click Info in the left-hand sidebar, select Sync Contacts and/or Sync Calendars, and select any other desired options. Then click Sync. Just remember, this is a manual process, not automatic push synchronization as with iCloud.

Work with Multiple iCloud Accounts

In this book, I generally assume that each person has a single iCloud account. Some people use a separate Apple ID (possibly shared with a family member) for purchases from the iTunes Store (see [About Your Apple ID](#)),

although Family Sharing largely eliminates the need to do so (see [Use iCloud Family Sharing](#)).

However, in some situations a person may have more than one active iCloud account, each with its own data (such as email, contacts, and calendars). For example, you may have a personal account and a work account, or an individual work account and a departmental account that you're in charge of monitoring. In cases such as these, you can set up your Mac or iOS device to access multiple iCloud accounts at once—with some restrictions. (You can also use this technique to share a set of contacts with a family member or friend; see [Share Your Contacts with Someone Else](#), later.)

USE MULTIPLE ICLOUD ACCOUNTS ON A MAC

On a Mac, each user account can be signed in to a different iCloud account and receive the full benefit of that iCloud account, with one important exception: on any given Mac, only one iCloud account at a time can be used for Find My Mac, regardless of how many *user* accounts you've set up. If you want to enable Find My Mac under a different user's account, first disable it under the user account where it's active.

Apart from that, each user account on a Mac can have a primary iCloud account—with full access to all available services—as well as secondary iCloud accounts with more limited access. Once a given user has signed in to an iCloud account, that iCloud account becomes the primary account for that user—and the only one that can use Safari data syncing, iCloud Photos, iCloud Drive, iCloud Keychain, and Back to My Mac. If you then add another iCloud account while logged in to the same user account, your Mac treats the new iCloud account as secondary,

which means it can be used only for email, contacts, calendars, reminders, and notes. (And yes, you can have more than one secondary iCloud account.)

To add a secondary iCloud account, go to System Preferences > Internet Accounts, click iCloud, and follow the prompts to sign in and enable any desired features.

USE MULTIPLE ICLOUD ACCOUNTS ON AN IOS DEVICE

On an iOS device, as on a Mac, you can have more than one iCloud account set up, but only the first one you configure—the primary account—can be used for Safari, iCloud Photos, iCloud Drive, Keychain, Find My *Device*, and Backup. In addition, on an iOS device, push email works only with the primary account. Secondary accounts can be used for email, contacts, calendars, reminders, and notes.

To add a secondary iCloud account, go to Settings > Accounts & Passwords > Add Account, tap iCloud, and follow the prompts.

SWITCH PRIMARY AND SECONDARY ACCOUNTS

If you set up a certain iCloud account as a secondary account on a Mac or iOS device and later decide you want the secondary account to be primary (so it's the one associated with services like iCloud Photo Library and iCloud Drive), you'll need to delete the secondary account temporarily (see [Remove an iCloud Account](#)), sign out of the primary account, and then sign back in with the (formerly secondary and now primary) account.

[Disable iCloud](#)

Once you've set up an iCloud account, it exists forever. You can manually delete any or all of the information from the account, if you like, or even stop using it permanently, but Apple provides no way to cancel an iCloud account. However, even if you plan to continue using iCloud indefinitely, you may want to disable individual iCloud features, remove a device from Find My *Device*, or remove an iCloud account completely from a device.

DISABLE INDIVIDUAL FEATURES

To disable features you don't need, go to System Preferences > iCloud (on a Mac), the iCloud app (in Windows), or Settings > *Your Name* > iCloud (on an iOS device). Uncheck or turn off the features you don't want to use on that device. In some cases, you are prompted to decide whether you want to keep the associated data on your device or delete it; but even if you delete it from a given device, it will remain in the cloud, meaning it will download again if you later decide to reenable that feature.

Note: To do this for a *secondary* iCloud account, go to System Preferences > Internet Accounts and select that account in the sidebar (on a Mac) or go to Settings > Accounts & Passwords > *Account Name* (on an iOS device), and uncheck or turn off features you don't want to use.

REMOVE A DEVICE FROM FIND MY DEVICE

When you turn on Find My *Device* on a Mac or iOS device, you can then lock or even wipe the contents of that device remotely if it's lost. If you buy a used Mac or iOS device and the previous owner hasn't removed the device from Find My *Device*, that person—and not you—can

then erase your new device at any time!
Therefore, if you're selling a device that was signed in to your iCloud account, be sure to remove it from Find My *Device* first. And before buying a used device, make sure the previous owner has done so (see [Check Activation Lock](#)).

You can remove a device from Find My *Device* by turning off Find My *Device* in System Preferences > iCloud (on a Mac) or in Settings > *Your Name* > iCloud (on an iOS device); removing your iCloud account completely (described next); or, on an iOS device, by erasing it (tap Settings > General > Reset > Erase All Content and Settings). For more details, see Apple's support article [iCloud: Remove your device from Find My iPhone](#).

REMOVE AN ICLOUD ACCOUNT

To remove an iCloud account from a device, do one of the following:

- **Mac:** Go to System Preferences > iCloud and click Sign Out.
- **Windows:** Open the iCloud app and click Sign Out.
- **iOS:** Tap Settings > *Your Name* and then, at the bottom of that screen, tap Sign Out.

Then, follow the prompts to specify whether you want any of your iCloud data to remain on the device.

Removing an iCloud account from a device, like disabling individual features, doesn't delete data from Apple's servers. If you later set up the same account on the device, it will re-download data for each iCloud feature you enable.

Use iCloud Family Sharing

If you live in a household where multiple family members would like to share the digital media they purchase from Apple (music, movies, TV shows, books, and apps)—and especially if your family includes children who use Apple devices—you’re the target audience for iCloud’s [Family Sharing](#) feature. (If not, there’s nothing to see in this chapter—skip ahead to [Use iCloud Music Library](#).)

Family Sharing requires Yosemite or later, or iOS 8 or later, so I recommend using it only if *all* your family’s devices meet these requirements. If your family fits that profile, here’s what you’ll get for up to six family members:

- All family members’ purchases of media from Apple are charged to the credit card of the person designated as the family organizer. (Family members who have enough credit in their own Apple ID accounts can use that credit to buy something without using the shared card.)
- Kids (who can get special Apple IDs of their own even if they’re under 13) can request media purchases from a parent, who must approve each one individually.
- All family members can access each others’ media, although you can hide particular items of your own that you don’t want to share.
- A shared family photo album, calendar, and reminder list are created.
- Family members can more easily share their locations (with Find My Friends) and locate their devices (with Find My Device).
- A family can join Apple Music as a group for \$14.99 per month instead of paying \$9.99 per person per month—or \$4.99 per college student.
- If the family organizer is paying for iCloud Drive space, that storage quota can be applied to the family instead of just the organizer.

- Starting in iOS 12, parents can limit their kids' screen time; see Tonya Engst's article [Parents Rejoice! iOS 12 Provides More Helpful Parental Controls](#) at Simply Mac.


I won't pretend Family Sharing is perfect—for example, in-app purchases can't be shared, and I'm also annoyed that Family Sharing offers no way to share data like contacts, bookmarks, and passwords within a family—but it's definitely helpful for what it does.

Enable Family Sharing

You can enable Family Sharing on either a Mac or an iOS device. Once it's enabled on one of your devices, it's enabled on all of them. I'll explain the steps on a Mac here; if you use an iOS device, the process is similar except you go to Settings > *Your Name* to start. Do this:

1. On a Mac, go to System Preferences > iCloud.
2. Click Set Up Family.
3. Click through several informational screens, confirming that you really want to do this, that the Apple ID shown is the one you want to use as the family organizer, that you want to share your purchases (or not), that you agree to the terms and conditions, and that you understand purchases will be charged to the credit card associated with your Apple ID.
4. Choose whether you want to share your location with family members, and click Continue.
5. On the Family Members pane of the dialog that appears, click Add Family Member to add one or more family members:
 1. **For adults (and children with existing Apple IDs):** Select "Enter a family member's name, email address or Game Center nickname," enter the name or address, click Continue, and follow the prompts. Each invited family member must either enter their password on your computer or follow the steps in an email invitation they receive to join the family account.
 2. **For children without Apple IDs:** Select "Create an Apple ID for a child who doesn't have an account," click Continue, and then follow the prompts. (See the sidebar [Your Child's Password](#), ahead, for important advice on choosing a password.) You'll have to select an Apple ID (that

is, a string of your choice followed by @icloud.com) for your child; this will also become the child's email address. If the Apple ID you specify is unavailable, a message appears below the field, in red, to tell you so.

To add another member, click the plus  button and repeat this process.

6. When you're done, click Done.

To add or remove people later, go to System Preferences > iCloud and click Manage Family. You can then change family members or adjust their details (**Figure 6**).

Family Members Apps & Services



Joe Kissell (Me)
Organizer



Morgen Jahnke
Parent/Guardian



Soren Kissell
Age 7



Devin Kissell
Age 3



Joe Kissell
jwk@mac.com

Family purchases: jwk@mac.com

Use this account in the iTunes, iBooks, and App Store to share purchases with your family members.

Change Account

Parent/Guardian: Yes

You are the family organizer and can approve Ask to Buy requests from children in your Family.

Stop Family Sharing

You need to transfer Soren and Devin to another family to stop Family Sharing.



Learn More



Done

Figure 6: Manage payment method and family members in this dialog within the iCloud preference pane.

YOUR CHILD'S PASSWORD

Your child's account password, like any iCloud account password, must meet Apple's minimum requirements: "at least 8 characters, a number, an uppercase letter, and a lowercase letter." In general, I suggest making passwords significantly stronger than this minimum (by using, say, 12 or more random characters).

However, in the case of a password for a very young child—I speak from experience here—consider keeping it on the simpler side. That's because the *child* will need to enter the password in order to [Use Ask to Buy](#)—and if your child has to pester you to look up and enter a long, complex password every time he wants to download a game, that defeats part of the purpose of Ask to Buy in the first place, in that the child can't complete the process independently of the parent. On the flip side, the presence of Ask to Buy (assuming you have it enabled) reduces the security risk of a weaker password.

Configure Apps and Services

In most cases, the setup process I just described will be all you need to do, but you may want to add or adjust certain settings after the fact. To do this, go to System Preferences > iCloud > Manage Family > My Apps & Services, and select a category on the left:

- **Purchase Sharing:** Enable or disable purchase sharing within the family generally or for your own purchases specifically, change which iCloud account is used for sharing, or change your payment method.
- **Apple Music:** View or modify an Apple Music family membership. Depending on the specifics of your situation, you may only be able to see the name of the person sharing an Apple Music family membership with

you, or you may be able to click Change Plan to switch to an individual or college student plan.

- **iCloud Storage:** Change your storage plan, or enable or disable sharing that plan with your family (see [Share Storage Space](#)).
- **Location Sharing:** Select which family members, if any, can see your location.

Click Done when you're finished making changes.

Share Calendar and Reminders

Each participating family member automatically has a Family calendar added to Calendar (on macOS and iOS, and in the Calendar web app) and a Family reminder list added to Reminders. So, any events or reminders you assign to Family will appear for all family members.

But what if you already had a shared family calendar (whether or not it was called “Family”)? That calendar will still exist alongside the new one. If you want to switch over to the new Family calendar without losing all the events in your old family calendar, do this:

1. In Calendar on a Mac, click the Calendars button on the toolbar to see the sidebar and select your *old* family calendar.
2. Choose File > Export > Export, enter a name and choose a destination, and click Export.
3. Choose File > Import, select the calendar you just exported, and click Import.
4. In the Add Event dialog that appears, choose your new Family calendar. Click OK.
5. After Calendar imports the events into your Family calendar, you'll have two copies of each one—one each on the old and new family calendars. Skim these to make sure all your events are indeed present on the new calendar.
6. Select your *old* family calendar, choose Edit > Delete, and click Delete to confirm.

The new family calendar will be used for family events from now on.

Tip: If you also had a shared family Reminders list, you can follow the same basic steps in Reminders to move those items to the new Family reminders list.

Share Family Photos

Family Sharing creates a new shared photo album called Family on all the family's devices. Add photos to this album just like any other album, and they're available to all family members. For more information on shared photo albums, refer to [Share Photos, Videos, and Albums](#).

Use Find My Noun

Family Sharing makes it easier for family members to use Find My Friends and Find My *Device* (see [Find My Nouns](#)):

- **Find My Friends:** Turning on Family Sharing automatically adds all family members to each others' [Find My Friends](#) app, so you can find out where each family member is (or, to be more accurate, where each person's primary iOS device is).
- **Find My *Device*:** On any or all of the family's Macs and iOS devices, family members can enable Find My *Device* (Find My Mac, Find My iPhone, etc.) in System Preferences > iCloud (Mac) or in Settings > *Your Name* > iCloud (iOS).

Once that's done, when you open the Find My iPhone app for iOS, or the Find My iPhone web app on the [iCloud website](#), your personal devices appear at the top of the All Devices list (under a My Devices heading), followed by headings for each family member's devices.

Share Media

Once Family Sharing is set up, media purchased from Apple by any family member is available to the other family members, and new purchases are charged to the organizer's credit card. This

is similar to how you can re-download your own media.

To see and download another family member's purchases:

- **Mac apps:** In the App Store app on your Mac, click Purchased and then choose a family member's name from the Purchased pop-up menu at the top.
- **iOS apps:** In the iOS App Store app, tap Updates. Then tap your picture at the top of the screen, followed by Purchased, and tap a family member's name.

Note: Some apps are not shareable among family members. (This is at the developer's discretion, though I have no idea why a developer would want to prevent sharing within a family.) Look at an app's description in the App Store, and if it's shareable, you'll see a Family Sharing entry under the "Supports" heading (below "Information"). Also note that in-app purchases are *never* shareable among family members.

- **Books:** In Books (or iBooks) for Mac, go to Store > Store Home and click the Purchased link. Then choose a family member's name from the pop-up menu next to Purchased at the top.

In Books for iOS 12 or later, tap Reading Now, and then tap your picture in the upper-right corner. Then tap a family member's name. In iBooks for iOS 11 and earlier, go to Purchased and tap a family member's name.

- **Music, TV shows, and movies:** In iTunes for Mac, choose Account > Family Purchases, and choose a family member's name from the pop-up menu next to Purchased at the top.

On an iOS device, open the iTunes Store app and then go to More > Purchased (iPhone) or Purchased > My Purchases (iPad) and tap a family member's name.

On an Apple TV, go to Movies > Purchased > Family Sharing or TV Shows > Purchased > Family Sharing and select a family member's name (see [Use iCloud on an Apple TV](#) for more information).

Note: If you subscribe to iTunes Match, your matched or uploaded tracks won't be available via Family Sharing because they weren't *purchased* from Apple.

HIDE PURCHASED APPS

To hide an app you've purchased from other members of your family, do this:

- **iOS:** Go to App Store > Updates > *Your Picture* > Purchased > My Purchases, swipe an app name to the left, and tap Hide.
- **Mac:** Go to App Store > Purchased, right-click (or Control-click) an app, and choose Hide Purchase from the contextual menu. Click Hide Purchase to confirm.

Use Ask to Buy

If your family includes children, you may want to use Family Sharing's Ask to Buy feature. Follow these steps:

1. Go to System Preferences > iCloud > Manage Family (Mac) or Settings > *Your Name* > iCloud > Family Sharing (iOS), select a family member, and turn on Ask to Buy (it's on by default for new children's accounts).
2. To designate another adult as a parent or guardian who can approve purchases, go to System Preferences > iCloud > Manage Family, select that person, and select Parent/Guardian.
3. On each child's device, log in with the child's Apple ID in both iCloud (System Preferences or Settings) and each media app (iTunes, App Store, iBooks).
4. On each adult's device, log in with the adult's Apple ID in all the same places.

Thereafter, after the child clicks or taps the Buy or Install button in any of Apple's apps where media can be downloaded and enters their password (see [Your Child's Password](#)), an Ask Permission alert appears. When the child clicks or taps the Ask button in that alert, parents get a notification that they can approve or decline.

Share Storage Space

Starting with 10.13 High Sierra and iOS 11, iCloud users who purchase extra storage at the 200 GB level or above can share that storage

space with members of their iCloud Family Sharing group.

To share space as the family organizer:

- **Mac:** Go to System Preferences > iCloud > Manage Family > My Apps & Services > iCloud Storage and click Start Sharing. Then click Done.
- **iOS:** Go to Settings > *Your Name* > Family Sharing > iCloud Storage and tap Share Storage Plan. (If you have another family member who's already paying for storage, you can optionally tap Send Invitation to invite them to switch to your plan.)

Other family members on the free 5 GB storage tier can immediately use the shared space, while family members with their own paid plans can choose to use the shared space or to continue paying on their own. If they choose to use your shared space, they can either follow the instructions they receive by email (if you invited them using iOS), or on a Mac running High Sierra or later, go to System Preferences > iCloud > Manage Family > My Apps & Services and click Use Family Storage.

Use iCloud Music Library

Apple has two different services—iTunes Match and Apple Music—that enable you to sync music to the cloud and share it across your devices (among other capabilities). Both of them use online storage that Apple refers to as iCloud Music Library, although Apple describes only one of the services as an iCloud feature—and an optional one, at that.

The two services have some stark differences, but all the capabilities of iTunes Match are incorporated into Apple Music. So if you subscribe to Apple Music, there's no reason to use iTunes Match too. In this chapter I help you understand what the two services do and decide whether you should use either. I also walk you through setting up and using iTunes Match—but *not* Apple Music, because Apple Music isn't part of iCloud (and is large enough and complex enough to warrant its own book).

Understand Apple's Music Services

Let me begin by listing what iTunes Match and Apple Music have in common. With either service, both of which are optional, you pay a fee to subscribe, and then activate the service on each of your devices. On a Mac, you must also select iCloud Music Library in iTunes > Preferences > General. After that, two things happen:

- iTunes scans the music library on your Mac or PC and compares what you have to Apple's vast iTunes Store selection—more than 30 million tracks. This process should take just a few minutes (though it can take longer if you have a huge music library).

- Whenever iTunes finds a track in your library that wasn't purchased from the iTunes Store but matches a track in Apple's library, it makes Apple's version available for download or streaming on all your devices (including your Apple TV and HomePod). The music in Apple's library is stored as high-quality 256 Kbps AAC files. So, if the song already on your Mac was stored at a lower quality, the version now available to all your devices will be superior. Furthermore, any matched (i.e., previously owned) tracks that you download come without DRM (digital rights management), commonly known as copy protection. And you get to keep those upgraded, DRM-free tracks, even if you later cancel iTunes Match or Apple Music.

Note: When you download a higher-quality track from Apple, it maintains your existing metadata (such as play count).

- When iTunes encounters a track it can't match—for example, a rare version of a song, or a track you recorded yourself, or music by an artist who's not in the iTunes Store—it uploads that track to iCloud, after which it's available to all your other devices for download or streaming. (This may take a while, depending on the quantity of music and the speed of your internet connection.) Unmatched tracks are uploaded at their existing quality, even if that's less than 256 Kbps AAC.

Note: Apple limits you to 100,000 tracks, although tracks purchased from the iTunes Store don't count toward this limit.

- Tracks stored in iCloud Music Library (whether purchased or uploaded) don't count against your iCloud storage quota.

So far so good? OK. Now, here's where the two services differ:

- **iTunes Match:** iTunes Match costs \$24.99 per year and does only the things described above. iTunes Match is especially useful for those without lots of storage space on their Macs and iOS devices—it lets you safely delete tracks from local storage, knowing that you can stream or download them from the cloud whenever needed (as long as you keep paying that annual fee).
- **Apple Music:** Apple Music is more expensive, at \$9.99 per month for an individual, \$4.99 per month for a college student, or \$14.99 per month for a family (which requires that you first sign up for iCloud Family Sharing—see [Use iCloud Family Sharing](#)). But in addition to storing all your music online, it offers *unlimited* streaming of *any* music from Apple's vast catalog, on any of your devices—including not only an Apple TV and HomePod but also a cellular-enabled Apple Watch—and

you can download any of this music for later playback when you're offline. But there's a small catch: downloaded tracks that were not matched (that is, tracks you didn't already own) are protected by DRM. This prevents you from sharing them with people who aren't Apple Music subscribers.

If you subscribe to Apple Music, you already have all the features of iTunes Match. However, if you prefer to play *only* the music you deliberately purchase, rip, create, or otherwise acquire—you have no use for an on-demand streaming service—but appreciate being able to access it on any of your devices, iTunes Match is a better fit for you. (I fall into this category—I'm not the sort of person who has music playing most of the time and I'm picky about what I listen to, so I would never get my money's worth from Apple Music but find iTunes Match a great value.)

To summarize: When you subscribe to either iTunes Match or Apple Music and enable iCloud Music Library, Apple stores on its servers a copy of all the music from your iTunes library, and you can then access your music from other devices (but you can't stream iTunes Match content on a cellular-enabled Apple Watch). Apple Music delivers far more music, but at a higher price and with DRM for tracks that you didn't already own. But either way, you'll have a copy of your music in the cloud.

Use iTunes Match

Because Apple Music isn't part of iCloud and doesn't require an iCloud account (even though it uses something called iCloud Music Library), I don't cover it here. iTunes Match, on the other hand, is explicitly an iCloud feature. If you've decided it's for you, here's how to set it up.

ACTIVATE ITUNES MATCH ON A MAC OR PC

To subscribe to iTunes Match on your computer (or add a computer to an existing subscription), follow these steps:

1. Open iTunes.
2. Choose View > Media Kind > Music, click Store near the top of the window, and then click the iTunes Match link on the right. The main part of the iTunes window explains what you get if you subscribe. (After you subscribe to iTunes Match, the iTunes Match link disappears.)
3. Click Subscribe for \$24.99 per Year.

Note: If you've already subscribed on a different device (or if you signed out from iTunes Match for any reason), instead click Add This Computer and follow the prompts.

4. Enter your Apple ID and password, and click Subscribe.

iTunes verifies your purchase (you may need to confirm billing details and agree to the iTunes Match Terms and Conditions), gathers information about your iTunes library, and then begins matching your tracks. You can continue using iTunes normally while that happens—but if you quit iTunes, it will interrupt the process until you open it again.

5. Go to iTunes > Preferences > General and confirm that iCloud Music Library is selected. If not, select it.

If you have another Mac or PC, you can follow the same process, with special attention to the note after step 3. (You pay only once for up to ten devices that share an Apple ID.)

ACTIVATE ITUNES MATCH ON AN IOS DEVICE

To subscribe to iTunes Match on your iOS device (or add an iOS device to an existing subscription), follow these steps:

1. Tap Settings > Music.
2. If you see a Subscribe to iTunes Match link, tap it. Otherwise, turn iCloud Music Library on.
3. You'll see an alert that iTunes Match will replace the music on this device, but that's misleading—any music already on the device that was previously synced to an iTunes library you've connected to iTunes Match stays in place. Tap Replace.

Note: After you connect to iTunes Match from this device, the Subscribe to iTunes Match link disappears from Settings > Music.

4. If you previously subscribed to iTunes Match on a Mac or a PC, all the music from that computer should appear in the Music app within a few moments.
5. If you want to ensure that iTunes Match downloads music only when your iOS device is connected to the internet via Wi-Fi (and not when it's using a cellular connection), tap Settings > Music > Cellular Data and turn Cellular Data off. (If you don't see this switch, your device doesn't have a cellular modem.)

You can now stream or download any of your tracks on this device using the Music app or through a connected HomePod. Repeat the above steps for any other iOS devices you use.

Tip: You can listen to all your iTunes Match tracks on an Apple TV; see [Set Up iCloud on an Apple TV](#).

I could go on for quite a few pages about iTunes Match, but my colleague Kirk McElhearn has already done so in his book [Take Control of iTunes 12: The FAQ](#), which I heartily recommend.

Manage Your Photos

As we've seen, iCloud's main *modus operandi* is "just put all my data everywhere," and you'll undoubtedly want to include your photos and videos among that data. iCloud handles photos and videos using iCloud Photos, which is actually a collection of three different features.

The first two—iCloud Photo Library and My Photo Stream—are for syncing photos. iCloud Photo Library keeps your entire photo library in sync automatically across your devices via the cloud, but counts synced photos (and videos) against your iCloud data storage quota. My Photo Stream, on the other hand, doesn't affect your storage quota but makes only your most recent photos available on all your iCloud-compatible devices. (The two sync methods have other differences, too, as I explain ahead.)

The third feature, Shared Albums (previously called iCloud Photo Sharing), makes it possible to share photo streams with other people—although shared photo streams follow different rules from My Photo Stream.

These three features can be confusing individually, and they overlap in various ways. In this chapter I untangle them for you, explaining which feature does what, and which you should use in various situations.

Note: I also compare the Dropbox Camera Upload feature to iCloud's various offerings in the sidebar at the end of this chapter, [iCloud Photos vs. Dropbox Camera Uploads](#).

Warning! If you use Photos to store photos of, shall we say, an *intimate nature* and want to reduce the risk that they'll escape onto the internet, don't enable *any* of the syncing features discussed in this chapter! See [Manage iCloud Security and Privacy](#) for details.

Compare iCloud Photo Options

iCloud Photo Library and the older My Photo Stream both sync photos across your devices via the cloud, but they differ in almost every other detail. You can use either or both, though most people will probably find that iCloud Photo Library alone is all that's needed, as it essentially makes My Photo Stream superfluous (at least for those who have paid for enough iCloud storage to hold all their photos and videos).

ICLOUD PHOTO LIBRARY

I say more about iPhoto Library ahead in [Use iCloud Photo Library](#), but for now, here are its main characteristics:

- Gives you a single library across your Macs and iOS devices, and the [iCloud website](#) (using the Photos app on each platform), as well as on the fourth-generation (or later) Apple TV
- Supports both photos and videos
- Counts against your iCloud storage quota
- Can store as many photos as you like, for as long as you keep paying
- Works over Wi-Fi or cellular connections
- Replaces Camera Roll (and the My Photo Stream album) in iOS
- Disables copying photos directly from a Mac or PC via iTunes sync
- Uploads original, full-resolution photos but optionally stores smaller, optimized copies on each device
- Syncs the People album (which groups photos by the people in them, as determined through facial recognition

and your own decisions) across your devices

MY PHOTO STREAM

My Photo Stream has been around since the beginning of iCloud, although it has changed a bit over the years. You can learn all about it in [Use My Photo Stream](#). For now, notice how, in contrast to the iCloud Photo Library features listed above, My Photo Stream gives you more in some ways, but less in others:

- Supports still photos only—no videos or Live Photos
- Doesn't count against your iCloud storage quota
- Stores only your 1,000 most recent photos on each device
- Stores photos online for 30 days
- Uploads original, full-resolution photos, but downloads smaller versions on iOS devices

CHOOSE A PHOTO SYNCING METHOD

If you want to sync your photos, should you use iCloud Photo Library, My Photo Stream, or both? There's no right answer, but let me call your attention to a few important factors:

- If you're using Photos on multiple platforms and you have enough iCloud storage space for all your photos, iCloud Photo Library will give you the best experience.
- If you want to continue using iPhoto or Aperture rather than switching to Photos, and you want iPhoto or Aperture to have easy access to all the photos you take with your iOS device, use My Photo Stream. The reverse is also true—My Photo Stream lets your iOS device access photos you import into iPhoto or Aperture.
- iCloud Photo Library doesn't subject you to the fussiness of time or numerical limits, and supports both videos and transferring data over cellular connections. But...
- iCloud Photo Library will almost certainly require you to pay for additional iCloud storage space, if you're not doing so already. Of course, if you're already paying for extra space, you might as well get your money's worth by storing your photos online too.

You can use both services together without adverse effects, but unless you're using iPhoto or Aperture, My Photo Stream provides no obvious benefit when iCloud Photo Library is enabled. Also, enabling iCloud Photo Library disables My Photo Stream by default—you'll have to reenable it manually if you want to use both. Personally, I have iCloud Photo Library turned on and My Photo Stream turned off.

SHARED ALBUMS

Shared Albums (called iCloud Photo Sharing in High Sierra and earlier, iOS 11 and earlier, and Windows) is separate from iCloud Photo Library and My Photo Stream—you can use it to share photos regardless of whether you use either, both, or neither syncing method.

I explain the details in [Share Photos, Videos, and Albums](#), but here's what this feature does:

- Shares albums (also called shared streams) with people you invite
- Lets you subscribe to photo streams other people have shared
- Holds up to 5,000 photos or (brief) videos
- Imposes no time limit on shared photos
- Permits people with whom you share albums to like or comment on the photos, and add their own

Use iCloud Photo Library

With iCloud Photo Library, your photo library is stored in the cloud and visible in your account on the [iCloud website](#) and on a fourth-generation or later Apple TV; the Photos app on your individual Mac(s) and iOS device(s) can store copies of all those photos (space permitting)—optionally optimized to save space, with full-resolution originals available for download on demand, and your Windows PC can also store full copies of everything. The only catch is that depending on the size of your library, you may have to pay Apple for additional iCloud storage.

Note: Edits to your photos and organizational changes to your library also sync across devices. However, according to [this Apple support article](#), the following data does not sync from your Mac to other devices: books, cards, and calendars; slideshows; keyword shortcuts; unused keywords; and last imported album.

ENABLE ICLOUD PHOTO LIBRARY ON A MAC

To enable iCloud Photo Library on a Mac, do either of the following:

- Go to System Preferences > iCloud, click the Options button next to Photos, select iCloud Photo Library, and click Done.
- Open Photos, go to Photos > Preferences > iCloud, and select iCloud Photo Library.

Whichever way you enabled it, open Photos > Preferences > iCloud (if you aren't there already) and select either Download Originals to This Mac (to store full-resolution copies of all your photos locally) or Optimize Mac Storage (to store full-resolution copies locally only if your Mac has enough room; if not, Photos stores only lower-resolution copies of your photos locally but keeps the originals in the cloud). If you've chosen to optimize storage, Photos downloads the full-resolution version when you edit or share a photo for which only the low-resolution version is currently on your Mac.

Note: If you previously had My Photo Stream enabled, turning on iCloud Photo Library disables it (which is most likely what you want, though you can turn it back on if you like; refer back to the sidebar [Choose a Photo Syncing Method](#)).

See [Learn More about iCloud Photo Library](#) for what to do next; or keep reading to learn how to set up iCloud Photo Library on other platforms.

ENABLE ICLOUD PHOTO LIBRARY ON AN IOS DEVICE

To enable iCloud Photo Library on an iOS device, follow these steps:

1. On your iOS device, tap Settings > *Your Name* > iCloud > Photos and make sure iCloud Photos (iOS 12 or later) or iCloud Photo Library (iOS 11 or earlier) is on (**Figure 7**).

7:30



Photos

iCLOUD

iCloud Photos



Automatically upload and safely store all your photos and videos in iCloud so you can browse, search, and share from any of your devices.

Optimize iPhone Storage



Download and Keep Originals

If your iPhone is low on space, full-resolution photos and videos are automatically replaced with smaller, device-sized versions. Full-resolution versions can be downloaded from iCloud anytime.

Upload to My Photo Stream



Upload your last 30 days of new photos and view them on your other devices using My Photo Stream. Photos from other devices can be viewed in the My Photo Stream album, but are not automatically saved to your library.

Figure 7: Turn on iCloud photo syncing options here.

2. If you want to keep your originals on the device (space permitting), leave Download and Keep Originals selected.

Alternatively, tap Optimize *Device* Storage to keep smaller versions of the photos on your device to save space—Photos automatically serves up the full-resolution version when editing or sharing.

See [Learn More about iCloud Photo Library](#) for what to do next; or keep reading to learn how to set up iCloud Photo Library under Windows.

ENABLE ICLOUD PHOTO LIBRARY ON A PC

To enable iCloud Photo Library on a Windows PC (if you didn't already do so when you [Set Up iCloud under Windows](#)), do the following:

1. Locate the iCloud app in the Start menu and open it. Sign in if you have not already done so.
2. Make sure Photos is checked.
3. Click the Options button next to Photos.
4. Select iCloud Photo Library to turn on automatic uploads and downloads of photos and videos. You can then individually select or deselect Download New Photos and Videos to My PC and Upload New Photos and Videos from My PC (and select default folders for each). Click Done.

LEARN MORE ABOUT ICLOUD PHOTO LIBRARY

Once you've done the setup steps on each device, photo libraries from the Photos app on your various devices will begin syncing with each other. You don't have to do anything special after taking photos on an iOS device—they sync to iCloud automatically, and from there, to your other devices. Remember that with iCloud Photo Library enabled, Camera Roll disappears, as does the My Photo Stream album, if you also use My Photo Stream; you'll now go to All Photos to see what used to be in those two albums. You can also view, upload, download,

and arrange photos from your iCloud Photo Library in [The Photos Web App](#).

Theoretically, that should be all there is to it—things just work, all your photos automagically appear everywhere, and you no longer have to think about syncing or wonder where your photos are. But, of course, it's not quite that simple.

You may have any number of questions. How does iCloud Photo Library handle duplicates? What happens when I delete a photo? Can I merge libraries from two different Macs? What if I want to keep using iPhoto or Aperture? And so on.

Apple took a first stab at answering some of these questions in its [iCloud Photo Library support page](#), and it's worth a quick read. However, I found that document to be lacking in detail and missing all the truly hard or interesting questions. So I took the liberty of supplementing it in my extensive TidBITS article [iCloud Photo Library: The Missing FAQ](#). Between those two documents, you should find most of the information you need to understand the intricacies of iCloud Photo Library and solve common problems.

Meanwhile, since the Photos app is the preferred way to sync your photo library across your devices (and, in iOS, the only way)—and it's quite a bit different from iPhoto and Aperture—you may be looking for more extensive help with using Photos. For that, I recommend reading Jason Snell's book [Take Control of Photos](#).

Use My Photo Stream

Like iCloud Photo Library, My Photo Stream syncs your own photos across devices. It doesn't count toward your storage quota and it works

with Photos, iPhoto, or Aperture on your Mac. But although this feature is not quite as inscrutable as it once was, it still involves a number of less-than-obvious limitations and gotchas.

UNDERSTAND HOW MY PHOTO STREAM WORKS

With My Photo Stream, your Mac, PC, or iOS device can automatically send newly taken or imported photos up to the cloud, from where they then percolate to the rest of your devices. The photos stored in the cloud and available for instant access by all your devices are said to be “in My Photo Stream,” which seems like a mixed metaphor (are they up in the cloud or flowing down a stream?), but in any case, the image of a fleeting, temporary existence is apt, as I explain shortly.

Tip: To learn more details about My Photo Stream, consult Apple’s [My Photo Stream FAQ](#).

Syncing Photos with My Photo Stream

With My Photo Stream, you need not transfer photos manually from one device to another. The process looks like this:

- **Digital camera to computer:** You continue to connect your digital camera to your Mac or PC as before, and your computer remains the central repository for all your photos. But...
- **Computer to cloud:** Now your Mac or PC automatically uploads all new photos to the cloud.
- **iOS device to cloud:** As soon as you take a picture, your device uploads it to Apple’s servers over Wi-Fi. (If you have no Wi-Fi connection, My Photo Stream queues the uploads until you do.)
- **Cloud to iOS device:** Photos that appear in your iCloud account from another source (that is, a different iOS device, or your digital camera by way of your Mac or PC) are pushed down to all your iOS devices right away—again, assuming a Wi-Fi connection is available.

- **Cloud to computer:** Similarly, photos taken on an iOS device and pushed automatically to the cloud are, in turn, pushed back down to your Mac or PC.

It's unnecessary to connect your iOS device to your computer to transfer photos. And you never need to click so much as a single button to sync photos among iOS devices and computers. Only conventional digital cameras still require those manual steps. Even then, you might be able to cut the cable with an Eye-Fi card (see the sidebar [From Camera to iCloud with Eyefi](#)).

My Photo Stream Limitations

To this point, I've pretended that with My Photo Stream *all* your photos are magically transported to *all* your devices, but that's only sort of true. Since the initial release of iCloud, Apple has relaxed many of the earlier limitations for online photo storage (see Apple's article [My Photo Stream and Shared Albums limits](#) for details), but there are still five key qualifications:

- **iCloud stores My Photo Stream photos for only 30 days.** The iCloud servers maintain any given photo in My Photo Stream for only 30 days; after that, older photos disappear from iCloud. Therefore, in order to make sure all your photos propagate to all your devices, you should make sure your devices are turned on (with My Photo Stream activated) and connected to the internet at least once every 30 days. (Keep reading for further details.)

Because of this limitation, if you're using iPhoto or Aperture, and iCloud Photo Library is *not* enabled, open that app at least once every 30 days to be sure that all the photos in My Photo Stream are automatically imported to your permanent library on your Mac—even though photos download to your Mac automatically, the *import* happens only when the app is open. (This additional step is not needed in Photos.)

- **iOS devices store only 1,000 photos in My Photo Stream.** No matter how many photos My Photo Stream uploads to the cloud, the local My Photo Stream album on any iOS device maxes out at 1,000 photos. (There's no limit to how many photos you can *import*—automatically or manually—from My Photo Stream to your permanent Photos, iPhoto, or Aperture library, and no limit to how many can be in My Photo Stream on a Mac or PC.) When an iOS device takes or downloads photo number 1,001, the oldest one disappears from the local My Photo

Stream album on the device. (On an iOS device, you can restore photos squeezed out of My Photo Stream by transferring them via an iTunes sync or Shared Albums.)

- **My Photo Stream can't contain videos or Live Photos.** My Photo Stream is for still photos only—you'll have to sync videos manually. (However, this limitation doesn't apply to *shared* photo streams, which we'll get to shortly.) If you need to sync videos or Live Photos, iCloud Photo Library can handle them.
- **My Photo Stream is Wi-Fi-only on iOS devices.** For iOS devices, My Photo Stream works only when the device is connected to a Wi-Fi network—not when it's using a cellular data connection. That's true regardless of your carrier or data plan; even if you have plenty of bandwidth and a generous data allowance, photos won't travel between your device and the cloud over a cellular connection. (iCloud Photo Library doesn't share this limitation.)
- **Uploads aren't retroactive.** My Photo Stream doesn't upload retroactively—each device uploads all photos that you take or import after enabling it on the device, but it doesn't upload photos from before you enabled it. (iCloud Photo Library, on the other hand, uploads everything in your library.)

In addition, the My Photo Stream album doesn't appear on any device with iCloud Photo Library enabled. That doesn't mean your photos aren't being transferred; it's just that they're not segregated—they appear in All Photos. Because iCloud Photo Library effectively does everything My Photo Stream does and more, there's no real way to tell which mechanism was used to transfer any particular photo.

FROM CAMERA TO ICLOUD WITH EYEFI

Some cameras have built-in Wi-Fi capabilities, which means they can upload their photos to your computer wirelessly and, in some cases, automatically. If you aren't lucky enough to have such a camera, but your camera does use SD cards—currently the most popular storage format for digital photos—then you can add Wi-Fi capabilities by replacing your ordinary SD card with an [Eyefi](#) card.

Eyefi cards look and act just like regular SD cards, but include tiny Wi-Fi transmitters so they can upload photos to your computer, to your account on a photo sharing site, or both—and you need do nothing but make sure your camera is turned on and within range of a supported Wi-Fi network. (For password-protected networks, you may have to set the card up on your computer first.)

The company's current cards even have a spiffy feature called Direct Mode, which lets them connect to a companion app on your iOS device. This means you can wirelessly transfer photos from a run-of-the-mill digital camera to your iOS device—and thence to iCloud—automatically, without ever connecting a USB cable or removing your camera's SD card.

USE MY PHOTO STREAM WITH AN IOS DEVICE

To activate My Photo Stream on an iOS device, tap either Settings > Photos or Settings > *Your Name* > iCloud > Photos and make sure Upload to My Photo Stream (or simply My Photo Stream, if iCloud Photo Library is disabled) is turned on. That's it—no further configuration is required or possible. Having done that:

- From now on, photos you take on your iOS device (or that you add to All Photos or your Camera Roll in another way, such as by taking screenshots) are uploaded to My Photo Stream automatically.


But while all photos that appear in All Photos or your Camera Roll are added to My Photo Stream, that's a one-way process. When a photo taken with your iOS device expires from My Photo Stream, it remains on the device where it was taken! Whatever's in All Photos or your Camera Roll is saved until you delete it manually.

- Your iOS device will automatically download photos added to My Photo Stream by your Mac, your PC, or another iOS device you own. To view them:
 - **If iCloud Photo Library is *not* enabled:** You can see your photos in the My Photo Stream album in the Photos app. The My Photo Stream album holds the (up to) 1,000 photos that most recently appeared in My Photo Stream (regardless of which device took them). To save a photo arriving in the My Photo Stream album from another device to an enduring location on your iOS device, go to the My Photo Stream album, tap Select, select one or more photos, and then tap Add To followed by the name of an existing album or New Album. You can add photos to any album you created on your iOS device, but not to albums you created on your computer and copied to your iOS device.
 - **If iCloud Photo Library *is* enabled:** The My Photo Stream album doesn't appear, because All Photos (which replaces Camera Roll) already contains all your photos. As a result, My Photo Stream uploads your photos but doesn't need to download them.

Note: The Camera Roll (on devices without iCloud Photo Library enabled) and other albums created on your iOS device are backed up with the rest of your personal data when you use iCloud Backup (or even if you back up your iOS device to a Mac or PC using iTunes). Read [Understand How iCloud Backup Works](#) for details.

To delete photos from My Photo Stream:

- **If iCloud Photo Library is *not* enabled:** Open the Photos app, tap Albums > My Photo Stream, tap Select,

tap one or more photos, and then tap the Trash  icon. Tap Delete Photo to confirm. This removes the photo from iCloud and from the My Photo Stream album on all your devices. However, if Photos, iPhoto, or Aperture was configured to import photos from My Photo Stream automatically, the photo will still appear there in your library. In addition, if the photo was already synced from iTunes running on a Mac or PC, it may still appear elsewhere in the Photos app.

- **If iCloud Photo Library *is* enabled:** You can't delete photos from My Photo Stream with an iOS device. You'll need to use a Mac, PC, or Apple TV to do it. (Deleting photos from All Photos removes them from iCloud Photo Library but not from My Photo Stream.)

If you turn off My Photo Stream on your iOS device (or sign out of your iCloud account completely), all the photos in the My Photo Stream album on the device are deleted (unless iCloud Photo Library is also enabled), but they remain in the cloud for up to 30 days, and on all your other devices.

USE MY PHOTO STREAM WITH A MAC OR PC

If you're using iCloud Photo Library, the iCloud servers contain the master copies of all your photos. But if you're using only My Photo Stream, your Mac or PC serves as the master library for all your photos. You can continue to import photos from a digital camera as you have in the past, but any photos you take on an iOS device will find their way to your computer and then stay there indefinitely, even after they've disappeared from the cloud-based My Photo Stream.

If you prefer not to store photos on any given computer, you can turn off My Photo Stream altogether on that computer; and if you use Photos, iPhoto, or Aperture on a Mac, you can adjust iCloud's photo behavior in a couple of ways.

Use My Photo Stream on a Mac

On a Mac, you can access My Photo Stream with Photos, iPhoto, or Aperture. Set it up as follows:

1. In Photos, choose Photos > Preferences. (Or, in iPhoto, choose iPhoto > Preferences; or in Aperture, choose Aperture > Preferences.) Then click iCloud (**Figure 8**).

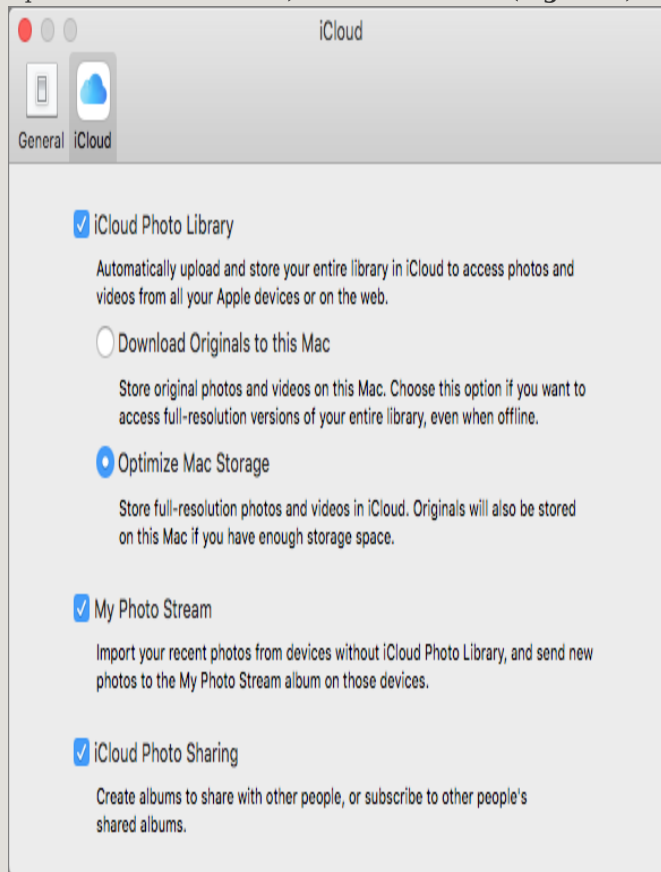


Figure 8: Configure My Photo Stream options here. (This figure shows Photos; iPhoto and Aperture offer similar options.)

2. Check or uncheck the following items as you see fit:
 1. **My Photo Stream:** With this selected, all newly added photos in My Photo Stream download automatically to your Mac. Enabling My Photo Stream adds a My Photo Stream item to the sidebar of Photos, iPhoto, or Aperture (except when iCloud Photo Library is also enabled); when you select that in iPhoto or Aperture, My Photo Stream (and any shared photo streams) appears as albums—double-click an album to view its contents.

Note: The following two options apply *only* to iPhoto and Aperture, *not* to Photos. When My Photo Stream is enabled, Photos always automatically imports new photos from My Photo Stream and uploads new photos to My Photo Stream.

1. **Automatic Import:** When checked, as photos appear in My Photo Stream (after having been uploaded from other devices), they're imported into your permanent iPhoto or Aperture library too. (iPhoto or Aperture must be open to import photos, so it's a good idea to open them occasionally if only to let them catch up with My Photo Stream imports. This is unnecessary with Photos, which can import items from My Photo Stream even when it's not running.) If you leave this unchecked, you can still see the photos by selecting iCloud in the sidebar and then double-clicking My Photo Stream; and you can manually import photos as long as they're still in the local My Photo Stream album by dragging them from there to Events or Photos.
2. **Automatic Upload:** When checked, all new photos that you import into iPhoto or Aperture (for example, from your digital camera) are uploaded to My Photo Stream. If you prefer to keep newly added photos on your Mac only (or if you want to choose which photos go in My Photo Stream), uncheck this—in which case, only photos from other device(s) where My Photo Stream is active will be uploaded automatically to My Photo Stream.

Note: With Automatic Upload enabled, iPhoto and Aperture don't automatically upload photos *already* in your library. You can manually add existing photos to My Photo Stream, as I discuss just ahead.

Having done that setup, you need do nothing further manually; photos travel to and from the cloud as needed whenever you're connected to the internet. Well, I should amend that slightly: You *do* need to open iPhoto or Aperture occasionally (at least once every 30 days!) to enable them to import recently downloaded photos before those photos disappear from My

Photo Stream. (You don't have to do this with Photos, however.)

You can also add photos (though not videos) to My Photo Stream manually—for example, if you disabled Automatic Upload or if you want to push photos to the cloud that were in your library before you enabled My Photo Stream. To do so, select one or more photos in your library. Then, either drag them to the My Photo Stream item in the sidebar of Photos, iPhoto, or Aperture, or (if the app supports it) choose Share > iCloud and select My Photo Stream.

To delete photos from My Photo Stream in Photos, select them and press Delete. In iPhoto or Aperture, select iCloud in the sidebar and double-click My Photo Stream. Select one or more photos, choose Photos > Delete from My Photo Stream (or press Delete), and then click Delete Photos to confirm.

In either case, this procedure removes the photos from the My Photo Stream album in Photos, iPhoto, or Aperture as well as from iCloud, which means they also disappear from the My Photo Stream album on your other devices. However, any photos you'd imported (manually or automatically) into Photos, iPhoto, or Aperture, or synced to an iOS device via iTunes, will remain there.

Use My Photo Stream on a PC

Under Windows, My Photo Stream operates in a more limited fashion than on a Mac (see [Set Up iCloud under Windows](#)). With My Photo Stream enabled with the default settings, here's what happens:

- All new photos in My Photo Stream are automatically downloaded to `C:\Users\your username\Pictures\iCloud Photos\My Photo Stream` (unless you chose a different location in the iCloud app). You can view My Photo Stream by opening any File

Explorer window, clicking the iCloud Photos entry under Favorites, and then double-clicking My Photo Stream.

- To add photos to My Photo Stream, open My Photo Stream as in the previous paragraph. Click Add Photos, select the photos you want to import, and click Open.
- To delete photos from My Photo Stream, select them, right-click, and choose Delete from the contextual menu. This removes the photos from the My Photo Stream album on your PC as well as from iCloud, which means they also disappear from the My Photo Stream album on your other devices. However, any photos you'd imported (manually or automatically) into Photos, iPhoto, or Aperture on a Mac, or synced to an iOS device via iTunes, will remain there.

Share Photos, Videos, and Albums

With Shared Albums (referred to as iCloud Photo Sharing prior to Mojave and iOS 12, and in Windows), you can set up one or more shared photo albums (also called shared streams, mainly in iPhoto and Aperture) that contain a subset of your photos. You can then invite others to subscribe to those photo albums, which will be available on any of their devices, or optionally on the web. Likewise, you can subscribe to photo albums other people have shared with you. And, starting in Mojave and iOS 12, you can also share *individual* photos or videos.

A shared photo album can hold a maximum of 5,000 photos or (unlike My Photo Stream) videos up to 5 minutes long (again, see Apple's article [My Photo Stream and Shared Albums limits](#) for details). And, shared photo albums are *not* subject to the 30-day limit of My Photo Stream; once you share photos, they remain available until you delete the photos or the shared photo album.

People who subscribe to a photo album you've shared can comment on (or simply "like") the photos, and can add their own photos and videos if you permit. For details about dealing with comments, likes, subscribers, and other

aspects of shared photo albums beyond what I cover here, see Apple's article [If Shared Albums aren't working](#).

ENABLE SHARED ALBUMS



If you have not already done so, enable Shared Albums:

- **Mac:** Go to System Preferences > iCloud, click the Options button next to Photos, and select Shared Albums (Mojave or later) or iCloud Photo Sharing (High Sierra or earlier).
- **iOS:** Go to Settings > *Your Name* > iCloud > Photos and turn on Shared Albums (iOS 12 or later) or iCloud Photo Sharing (iOS 11 or earlier).

Note: Turning on this control is not required for sharing *individual* photos or videos in Mojave or iOS 12.

SHARE PHOTOS FROM AN IOS DEVICE

To share photos or videos individually or to add them to a shared photo album:

1. Open the Photos or Camera app and then navigate to the photos or videos you want to use.
2. Tap Select, select the item(s) that you want to share, and tap the Share  icon.
tap the Share  icon.
3. To share individual items (as opposed to a full album)—this is a new feature in iOS 12—tap Copy iCloud Link, and then paste the resulting URL into Messages, Mail, or anywhere else you'd like. (This link expires after 30 days.) Then skip the rest of these steps.

To share an entire album, tap Shared Albums (iOS 12 or later) or iCloud Photo Sharing (iOS 11 or earlier). What happens next depends on your circumstances:


1. If you haven't created any shared albums on this device yet, you'll be prompted to enter the name for a new album; do so and tap Next.
2. If you've already set up shared photo albums, iCloud defaults to the most recently used album; to add the photo(s) to this album, enter an

optional comment and tap Post. To add the photo(s) to a different existing album, tap Shared Album and select an album from the list. Or, to create a new album, tap Shared Album > New Shared Album, enter a name for the new album, and tap Next.

4. For a newly created shared album, enter the name(s) or email address(es) of the contact(s) with whom you want to share and tap Next. Note that only iCloud members can join shared photo albums; if you want recipients who are not iCloud members to be able to view the photos on the web, you must enable the Public Website feature (described just ahead).
5. Enter an optional comment (200 characters or less), and tap Post.


Photos and videos in shared albums then appear on any of your other devices with Shared Albums enabled and signed in with your account. iCloud notifies the recipient(s) by email of the newly available shared photo album. Once a recipient joins a shared album, that album appears on all devices that are signed in with that user's iCloud Apple ID.

To modify a shared album, open the Photos app and tap Shared to view your list of shared photo albums. Then:

- To add more photos, tap the shared album's name, tap the plus  icon, select one or more photos, tap Done, and then optionally enter a comment and tap Post.
- To change an album's settings, tap the shared album's name and then tap People. You'll then see the following options:
 - *Invite People*: Tap to invite more people (up to 100 total per album).
 - *Subscribers Can Post*: Leave this on (the default) to let subscribers add their own photos and videos to the album; turn it off to make it read-only.
 - *Public Website*: If this is on (it's off by default), iCloud creates a webpage of the shared photo album that anyone can view—even people without any iCloud-compatible devices. Tap Share Link to send the link to others; the URL also appears on the screen.

- *Notifications:* Leave this on (the default) to be notified when subscribers interact with the shared album—for example, commenting or adding photos.

Note: If you have iCloud Family Sharing enabled, you'll have a Family album, with all family members listed at top, and no Subscribers Can Post option.

- To delete a shared album, tap Edit, tap the stream's Delete  icon, and then tap Delete.

SHARE PHOTOS FROM A MAC OR PC

The process for sharing photos from a Mac or PC is similar to what you do on an iOS device.

Share Photos from a Mac

To share photos or videos individually or to send items to a shared photo album, first select one or more photos or videos in your photo library. Then:


- **Photos:** Click the Share  icon. Then...

To share individual items (as opposed to a full album)—this is a new option in Mojave—click Mail, Messages, or another app name; macOS sends the selected app a link to the shared item(s), which expires after 30 days. Then skip the rest of these steps.

To share an entire album, choose Shared Albums (Mojave or later) or iCloud Photo Sharing (High Sierra or earlier) from the pop-up menu, enter an optional comment, and click an existing shared album or New Shared Album. If you've clicked New Shared Album, enter an album name, one or more addressees, and an optional comment, and click Create.

- **iPhoto or Aperture:** Choose Share > iCloud and click an icon—My Photo Stream, an existing shared photo album, or New Photo Stream. You may then need to take additional steps:
 - If you clicked an existing shared photo album, type an optional comment, and click Publish.
 - If you clicked New Photo Stream, enter the name(s) or address(es) of the contact(s) with whom you want to share it, enter a name for the photo album and an optional comment, select or deselect the photo album options (discussed in the previous section), and then click Share.

To adjust the settings for a shared photo album, or to learn the web URL for a shared photo album's public website:

- **Photos:** Select the shared album in the sidebar and click the People  icon on the toolbar.
- **iPhoto or Aperture:** Select iCloud in the sidebar, click the icon for the shared photo album, and then choose View > Info. The controls appear at the right.

When viewing a shared photo album, you can drag photos from it to your permanent Photos, iPhoto, or Aperture library to import them, just as with any other photo.

To delete a shared photo album:

- **Photos:** Right-click (or Control-click) the shared album name in the sidebar and choose Delete Shared Album from the contextual menu.
- **iPhoto or Aperture:** Select the shared album's icon in the main pane of the iPhoto or Aperture window, and then choose Photos > Delete Photo Stream.

Note: If you are using iCloud Family Sharing and want to share photos with other members of your family, you may find the Family shared stream to be adequate. See [Use iCloud Family Sharing](#).

Share Photos from a PC

To send photos to an existing shared photo album, first select one or more photos in File Explorer (Windows 8 or later). Then right-click them and:

- To share individual items (as opposed to a full album), choose Share on > Mail, Messages, or another app or service name from the contextual menu; Windows sends the selected app a link to the shared item(s), which expires after 30 days.
- To share an entire album, choose Add to a Shared Album followed by the name of a shared album. Add an optional comment and click Done.

To create a new shared photo album, select one or more photos, right-click them, and choose Add to a Shared Album > New Photo Album. Enter the name(s) or address(es) of the contact(s) with whom you want to share it, enter a name for the shared album, and set whether you want it to be public by checking or unchecking Create a Public Website to Allow Anyone to View This Photo Album on the iCloud website. Click Next, add an optional comment, and click Done.

To modify a shared photo album, select iCloud Photos under Favorites in Windows Explorer or File Explorer. Right-click the shared photo album and choose Stream Options. The dialog box that appears shows the same controls as when you create a shared photo album, as well as the option to deselect Allow Subscribers to Add Photos and Videos to This Shared Album (which is selected by default).

To delete a shared photo album, right-click it, choose Delete, and click Delete to confirm.

ICLOUD PHOTOS VS. DROPBOX CAMERA UPLOADS

Dropbox users may have noticed significant overlap between iCloud's photo capabilities and Dropbox's camera uploads feature. If you have accounts for both Dropbox and iCloud, you may be wondering how the two compare—or whether you should use both.

With Dropbox's camera uploads, photos and videos from your iOS device are uploaded when you connect your device to your computer with a USB cable. (Those without paid Dropbox accounts [must install the Dropbox desktop app](#).) If you have the Dropbox app on your iOS device, photos you take with the Camera app are also uploaded when you open the Dropbox app or—strange but true—when you change physical locations, and uploading can occur over both cellular and Wi-Fi connections. But there's no guarantee of automatic, near-instant syncing.

If you use iCloud Photo Library, it syncs your photos and videos immediately (no need to open an app or change locations), and it can do so over a cellular connection, at your option. But, you'll have to open Photos to access the synced photos; they won't appear as individual files in the Finder. (That may be an advantage or disadvantage, depending on your point of view.)

My Photo Stream stores your photos in the cloud for only 30 days, whereas Dropbox stores them indefinitely (as does iCloud Photo Library). Of course, iCloud offers unlimited (temporary) storage for photos, whereas with Dropbox you're limited to a total of 2 GB for free (or whatever amount of storage you've paid for).

In short, iCloud Photo Library and Dropbox camera uploads are basically redundant; I

suggest choosing one or the other. If you don't use iCloud Photo Library, the choice between My Photo Stream and camera uploads comes down to personal preference. If you use both, you'll have extra copies of your photos—but that's only a problem if you're running low on disk space.

To learn more about camera uploads (and the rest of Dropbox's features), check out my book [*Take Control of Dropbox*](#).

Keep Documents and App Data in Sync

With iCloud Drive, Macs have Finder access to online file storage in iCloud. iCloud Drive gives you a single location where you can (in theory) see any of the documents that any of your apps have stored in iCloud or that you've manually copied to iCloud Drive. You can organize files in any manner you choose, even creating your own folders. Any Mac app can store documents there, even if it hasn't been designed specifically to work with iCloud. And you can access iCloud Drive not only from your Mac but also through the [iCloud website](#), in the Files app for iOS, and from many iOS apps.

iCloud Drive's predecessor, Documents in the Cloud, still exists—but only for users running 10.9 Mavericks or earlier, or iOS 7. Because it's essentially obsolete, however, and because most users have upgraded to 10.10 Yosemite or later, or iOS 8 or later, this book no longer covers Documents in the Cloud.

To learn all about iCloud Drive, read the next topic, [Use iCloud Drive](#). In addition, you'll want to read [Use In-App Data Syncing](#), later in this chapter, for information on working with apps that don't rely on documents but do need to sync data across devices.

Use iCloud Drive

iCloud Drive is cloud-based storage you can access on any of your devices—either independently (for example, in the Finder on a Mac, or in the Files app on an iOS device) or

from within apps that have been updated to support it.

With iCloud Drive, master copies of your documents are stored in the cloud. Your Mac normally maintains a local copy of these documents, too—you can't turn off syncing—and any changes you make to the contents of your iCloud Drive on one device immediately sync, via Apple's servers, to the others. (However, your Mac might delete the local copies of some files if you've enabled [Optimize Mac Storage](#) and your disk starts running low on free space.)

That sounds simple enough, but iCloud Drive has quite a bit of hidden complexity and doesn't always make sense. You'll be able to use iCloud Drive more effectively if you understand at least some of Apple's logic. After I tell you how to turn on iCloud Drive (next), I'll give you a quick overview of how it *ought* to work in *normal* situations (see [Explore iCloud Drive](#)). Then I'll delve into what actually happens (see [Understand iCloud Drive Peculiarities](#)), which can be quite a bit different.

ACTIVATE ICLOUD DRIVE

For most users, iCloud Drive was already activated at some point within the past few years—typically while upgrading to a new version of macOS or iOS. If you deliberately skipped enabling iCloud Drive for some reason, you can activate it whenever you're ready by going to System Preferences > iCloud (Mac) or Settings > *Your Name* > iCloud (iOS) and turning on iCloud Drive.

There are a few other iCloud settings you can change. While the default settings are fine for almost anyone, you should be aware that they exist, just in case.

First, you can prevent a particular app from using iCloud Drive (for added security or to save space):

- **Mac:** Go to System Preferences > iCloud and click Options next to iCloud Drive. Then uncheck any app's name and click Done. This hides that app's folder in iCloud Drive on this Mac, but does not affect the data already saved to iCloud Drive, or its appearance on other devices. This setting doesn't prevent you from manually selecting iCloud Drive as a destination for unchecked apps.

Note that one of the items you can select or deselect is Desktop & Documents Folders, but that requires its own discussion; see [Sync Your Desktop and Documents Folders \(or Don't\)](#), ahead.

Note: You may notice that System Preferences is included among the apps whose data iCloud Drive can sync. My tests have not shown any difference in behavior between when this is checked and unchecked, so I'm unsure what data that checkbox is intended to affect, nor have I been able to find any documentation from Apple on that point.

- **iOS:** Go to Settings > *Your Name* > iCloud > iCloud Drive and, in the list below the iCloud Drive switch, turn off any app you want to disable on that device. That app loses in-app access to documents stored in iCloud Drive until you turn it back on. In addition, that app's folder will no longer appear in the iCloud Drive document picker (for any app) on that device. You can, however, still access that app's documents from the Files app.

Second, on a Mac you can select or deselect the Optimize Mac Storage checkbox. That also requires a bit of explanation; see [Optimize Mac Storage](#).

Third, you can choose which apps let other people find you by your email address for the purpose of sharing documents (although truth be told, I haven't encountered any apps that support this feature yet). To do this on a Mac, go to System Preferences > iCloud, click Options next to iCloud Drive, and click Look Me Up by Email. On an iOS device, go to Settings > *Your Name* > iCloud > Look Me Up.

SYNC YOUR DESKTOP AND DOCUMENTS FOLDERS (OR DON'T)

A significant iCloud feature introduced in 10.12 Sierra was the option to sync your Desktop (~/[Desktop](#)) and Documents (~/[Documents](#)) folders using iCloud Drive. The idea sounds both simple and elegant: merely check a box, and everything in those two folders—which is to say, the vast majority of files (apart from photos and music) for most users—becomes available on all your Macs, *plus* on your iOS devices and on the [iCloud website](#). Add a file on one Mac, and it appears on the others; change a file in one place, and it changes on the rest. You'll never be without your important data, and never have to take manual steps to sync things among your devices. In other words, this feature is supposed to do for your files what iCloud's other features already do for your email, contacts, calendars, notes, keychains, and so on.

In a moment, I'll tell you how to turn this feature on (or off), and how to achieve a similar result *without* using iCloud if that's your preference. But first I want to offer a reality check. I don't use this feature myself, and I think it will prove problematic for lots of Mac users. Before you jump in (if you haven't already), I want you to be fully aware of how it works and what the consequences will be.

How Desktop & Documents Folder Syncing Works

When you turn on syncing for your Desktop and Documents folders, macOS *moves* those two folders from their original locations to your iCloud Drive folder. (In most cases, the contents of any given Mac's Desktop folder actually move into a *subfolder* of the new Desktop folder in iCloud Drive called "Desktop - *Mac Name*," and likewise the contents of the Documents folder goes into "Documents - *Mac Name*." In other words, upon initially activating this feature, the

Desktop folders and Documents folders from your various Macs don't merge with each other, but you can merge the files manually if you like—see [Enable Desktop & Documents Folder Syncing](#) for details.) Once it has done so, those folders, like everything else in iCloud Drive, begin syncing to Apple's servers, and from there, to your other devices.

Let me be clear on what that means:

- If you do not already have enough storage available in iCloud Drive for all that new data, you'll be prompted to upgrade to a monthly plan with more capacity. (And, since the highest tier for iCloud storage is now 2 TB, you can't use this feature if those two folders together, across your Macs that have the feature enabled, contain more data than that.) Depending on how much data you have, this can significantly increase the cost of using your Mac.
- Even if storage limits are not a concern, you'll have to wait for all that stuff to upload (and then download to your other devices). Depending on the amount of data you have and the speed of your broadband connection, this could take days, weeks, or even months. (And, if your ISP imposes a monthly data cap, as many do, using this feature could quickly use up your monthly data allocation, as a result of which you may be charged more, or have your service slowed down or limited in some way.) However, note that the complete files sync only to other Macs. Your iOS devices will show the files uploaded from your Mac, but they won't be stored locally until you need to work with them.
- If you have any huge files in your Documents folder—I'm thinking, for example, of virtual machines created by Parallels Desktop, VMware Fusion, or VirtualBox, which routinely run into the tens of gigabytes—those will pose a particular problem, because every time the data *within* a virtual machine changes (which might be many times a day), the entire virtual machine will have to be uploaded (and thus downloaded to other Macs) again. The net result could be that the files are perpetually out of sync. (If you have such files but still want to use this feature, I strongly recommend moving them out of your Documents folder before you enable syncing.)

The same goes for databases and other document repositories, such as those used by DEVONthink and Scrivener.

- Although iCloud Drive encrypts your data in transit as well as on Apple's servers, this protects it only from malicious outside parties. Nothing prevents Apple from accessing your data, and if a government agency

demanding access to it, Apple would be both obligated and able to provide it.

- If you *also* select the [Optimize Mac Storage](#) checkbox (more on this in a moment), macOS can delete the *local* copies of any of your documents, leaving only their icons behind (with a badge to indicate that the originals are stored in iCloud Drive and, presumably, on your other Macs), if your Mac starts running low on disk space.

The benefit of the Optimize Mac Storage setting is that if you have one Mac with plenty of storage but another with much less room, you won't get stuck—both Macs will show all your files and folders, but on the lower-capacity Mac, some files won't be stored locally, instead downloading only when you need them. However, if the moment you need them is one when you have no internet access (or a slow connection), you could be up a creek. And remember that any backup software you use (including Time Machine) can back up only those files for which there is a local copy. If something is stored solely on Apple's servers, it won't be included in your backups.

Note: As long as your backup software makes a backup of any newly added files before Optimize Mac Storage deletes them, you should have nothing to worry about. That will virtually always be the case, *unless* you turn on Optimize Mac Storage long before you start backing up your Mac.

- With Desktop & Documents syncing enabled, you will no longer have folders located at `~/Desktop` or `~/Documents`. macOS transparently remaps those folders in the background, so apps, scripts, and other tools that are hard-coded to look in those locations should continue to work.
- You can't choose to sync *just* your Desktop folder or *just* your Documents folder, or to sync any additional folders. It's those two or nothing.
- If you decide to turn off Desktop & Documents syncing, macOS will *not* put everything back where it was! It will recreate your Desktop and Documents folders in their original locations, but won't move the data from iCloud Drive to those folders—you'll have to do that manually.


You may get the idea that I'm a bit less than fully enthusiastic about this feature. The fact is, I think it could be fantastic for a certain type of user—namely, someone who has multiple Macs, whose Documents folder is relatively small (and with relatively small files inside it), and who isn't especially concerned about the privacy of any of that data. If you fit that description, and the eight bullet points above don't put you off,

then by all means, use this feature with my blessing. If not, simply leave it disabled and carry on as if it never existed. (But, read [Sync Desktop & Documents Folders without iCloud Drive](#) for what I consider a better path to essentially the same end result.)

Enable Desktop & Documents Folder Syncing

If your Mac didn't come with Sierra or later preinstalled, then in the process of upgrading to the latest version of macOS, the installer will have invited you to turn this feature on. (The relevant installer screen is titled "All your files in iCloud," and the single checkbox "Store files from Documents and Desktop in iCloud Drive" is selected by default.) If you left that box checked, the feature is already on.

If you (wisely) deselected it during the upgrade and want to turn it on now, you can do so in either of two ways:

- Choose Apple  > About This Mac > Storage > Manage (or, if you prefer, open System Information in [/Applications/Utilities](#) and choose Window > Storage Management, which opens the same window). Click the Store in iCloud button, make sure Desktop and Documents is selected if you're given the choice, and click Store in iCloud. (Before enabling Photos in the same dialog, I suggest that you read [Use iCloud Photo Library](#).)
- Open System Preferences > iCloud, click the Options button next to iCloud Drive, select the Desktop & Documents Folders checkbox, and click Done.

The change is immediate, although syncing to Apple's servers may take quite a while.

As I mentioned earlier, if you use this feature on two or more Macs, iCloud moves those folders to Apple's servers but *does not merge them across your computers* by default. You'll have to do that manually, and thereafter, the files will sync as you expect. To perform this manual, one-time merge:

1. Select iCloud Drive in the sidebar of a Finder window, and inside that, select one of the two “Desktop - *Mac Name*” folders.
2. Drag the stuff that’s in that folder to your actual Desktop.
3. Repeat the above with the second “Desktop - *Mac Name*” folder, but if there are duplicate files or folders within the two folders already, you’ll have to sort those out manually.
4. Now delete the two empty “Desktop - *Mac Name*” folders from iCloud Drive.
5. Repeat steps 1–4 with the two Downloads folders.

Disable Desktop & Documents Folder Syncing

To disable this feature, open System Preferences > iCloud, click the Options button next to iCloud Drive, deselect the Desktop & Documents Folders checkbox, click Turn Off in the alert that appears, and click Done. Then click OK in the second alert confirming that the change has occurred.

Once you’ve done this, the items you’d stored in iCloud Drive *will still be there*, and your local copies will disappear—which may sound like the opposite of what you were expecting. So you’ll almost certainly want to move the files and folders from iCloud Drive back to your local Desktop and Documents folders. You can do so in the usual way (drag and drop); after dragging the files, click Move in the alert that asks if you really want to move them out of iCloud Drive. (For more on working with iCloud Drive in the Finder, see [Explore iCloud Drive](#), ahead.) Note that the download may take quite a while, depending on the quantity of data you’ve stored in those two folders and the speed of your broadband connection.

Sync Desktop & Documents Folders without iCloud Drive

Apart from the issues I identified earlier with iCloud Drive’s syncing of Desktop and Documents folders, my initial reaction was,

“This is a poor solution to a problem I solved years ago.” If you’re concerned about using this iCloud feature but wish you could have its benefits, let me briefly share my approach.

I use an app called [Resilio Sync Home](#) (formerly known as BitTorrent Sync), which lets me sync any number of folders on my Mac with other devices I own, or share them with other people. (I use it only for my own devices, however.) The syncing uses the same underlying peer-to-peer technology as BitTorrent, which means that it does *not* rely on a central server, like iCloud Drive. Devices talk directly to each other, over an encrypted connection.

I can use this tool to sync folders across computers (Mac or PC), and I can access all my files from an iOS device. I can’t reach them from the web (because, remember, they’re not stored on a server), but that’s fine by me—I don’t have to pay anyone for storage or worry about file sizes. Changes are synced almost instantly, and I can opt to save old and deleted versions of each file (à la Dropbox). And, for files over 4 MB that are modified, only the *changed portions* are transferred during a sync, which saves lots of time and bandwidth.

Resilio Sync Home comes in both free and Pro (paid) versions. The Pro version costs \$59.99, and that’s what I recommend—primarily because it lets you link all your devices, such that sharing a folder on one automatically syncs it to all of them. The Pro version also offers Selective Sync, which approximates iCloud Drive’s Optimized Storage feature. If you enable Selective Sync for a folder, you’ll see its contents on your other devices but the files themselves won’t transfer until you try to open them (or explicitly request that they download). Note that with Selective Sync enabled, you won’t see

thumbnails of graphics that haven't been downloaded to your computer.

OPTIMIZE MAC STORAGE

If you go to System Preferences > iCloud and click the Options button next to iCloud Drive, you'll notice an Optimize Mac Storage checkbox at the bottom of the dialog. When this is selected (as it is by default), your Mac keeps a local copy of everything in your iCloud Drive folder—including your Desktop and Documents folders, if you enabled syncing for them—*unless* you start running low on disk space. If you do, iCloud Drive automatically deletes older documents from your Mac, leaving only their icons (and other metadata) behind, while the originals remain stored in iCloud Drive. When you try to open a document whose content has been deleted from your Mac, macOS downloads it from iCloud Drive automatically. Other than taking a bit longer for such files to open, the process should be transparent.

If this sounds suspiciously like iCloud Music Library (see [Use iCloud Music Library](#)) or iCloud Photo Library (see [Use iCloud Photo Library](#)), that's no coincidence—it's Apple's way of applying roughly the same logic to the rest of your iCloud documents. (But note that, despite the feature having both “optimize” and “storage” in its name, it's merely a small subset of your Mac's Optimized Storage capabilities, which I describe further in the sidebar [About Optimized Storage](#).)

Optimized storage is great—and possibly indispensable—for users with very little free storage on their Macs. But it's not risk-free. By enabling this feature, you're trusting that your data won't go missing from Apple's servers, that there won't be an iCloud outage (or problems with your internet connection) at the moment

you need those files, and that macOS will make intelligent choices about which old files to remove from your Mac and when.

Personally, I feel safer having this box unchecked.

EXPLORE ICLOUD DRIVE

Once you've activated iCloud Drive, you can use it almost like any other folder on a Mac. In the Mac Finder, iCloud Drive appears in the sidebar. (It's near the top, under Favorites, if Desktop & Documents Folders is disabled. If it's enabled, you'll see iCloud Drive, Desktop, and Documents listed under an iCloud heading in the sidebar.) Select this (or choose Go > iCloud Drive) to open iCloud Drive (**Figure 9**).

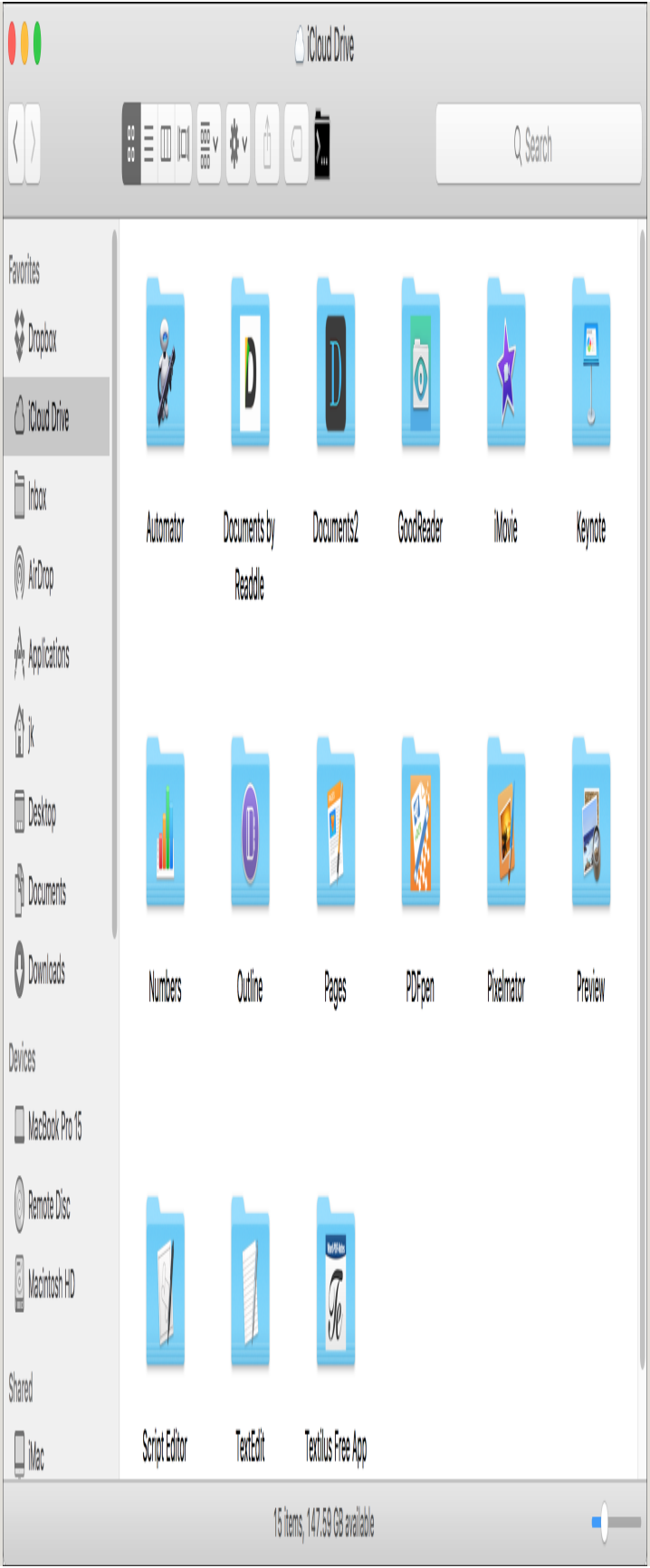


Figure 9: iCloud Drive in the Finder.

Note: I discuss other ways to access iCloud Drive files, such as from Mac and iOS apps, the [iCloud website](#), and Windows, later.

You can drag files into or out of the iCloud Drive folder to move them to or from iCloud. You can also create folders and organize items within iCloud Drive almost exactly as you would in any other folder.


Warning! I recommend against deleting any of the existing app-specific folders created by iCloud Drive, because doing so will remove all the synced data for that app from all your devices. Some iOS apps, for example, use these folders even if you never directly interact with the data.

You may notice, however, that you don't see a folder for every iCloud-enabled app you use (especially iOS apps), and some folders may not contain the files you think they should. (In fact, these items merely *look* like folders; they are actually called App Libraries, although I refer to them here as folders for simplicity.) I explain this, and other oddities, next.

UNDERSTAND ICLOUD DRIVE PECULIARITIES

Remember how I said earlier that, with iCloud Drive, “you can (in theory) see any of the documents that any of your apps have stored in iCloud?” Well, theory and reality don't exactly align, and the rules can be confusing. So, let me lay out the facts.

Apps Use iCloud in Different Ways

Every Mac app's Open and Save dialogs show iCloud Drive in the sidebar (if you don't see the sidebar in a Save dialog, click the arrow  next to the filename field, or choose Other from the Where pop-up menu, to expand the dialog), which means you can navigate manually to any spot in iCloud Drive to open or save a document.

However, those with explicit support for iCloud Drive show an extra entry, bearing the app's name, under iCloud at the top of the sidebar in that app's Open and Save dialogs (**Figure 10**).

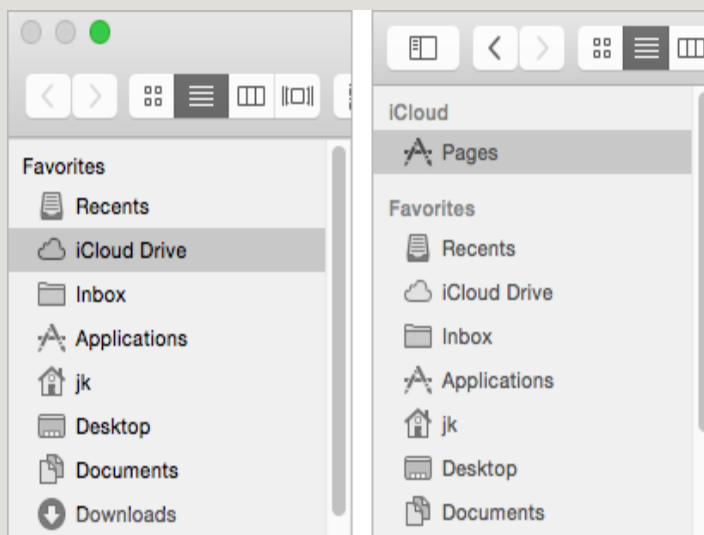


Figure 10: Apps *without* explicit iCloud support (left) have an iCloud Drive entry in Open and Save dialogs. Those with iCloud support (right) also have their own entry at the top. (If Desktop & Documents Folders is enabled, iCloud Drive, Desktop, and Documents appear under an iCloud heading.)

When you see an entry like this, it's a shortcut to that app's iCloud Drive folder. But individual app developers can choose to hide their app's folder on one or more platforms, which means—depending on the app—that sidebar entry may be the *only* way to see that app's documents. The folder may not show up in the Finder, on the [iCloud website](#), and so on.

Developers can also determine which file types their app-specific folder may contain. So, if App X can't open Pages documents, for example, it

may not permit you to put a Pages document in its folder (even by dragging it in the Finder), and the folder for Pages won't be available in that app's document picker in iOS.

Opening Documents in Other iOS Apps Is a Bit Different

If you've used almost any app with built-in support for Dropbox, Google Drive, OneDrive, or similar services, you're probably accustomed to the following behavior:

1. In the app, you select the cloud storage service you want to use, navigate to the file, and tap to open it.
2. You edit the file. Changes are saved automatically and immediately synced to your other devices.
3. If you open that file in another app, or on another device, it reflects the edits you made.

That's simple, logical, and pretty much what anyone would expect. Previously, iCloud Drive behaved much differently, and as of iOS 12 and 10.14 Mojave, the above description is *mostly* what happens. But there are a few exceptions. For example:

- Some apps let you open and edit their own native documents in place, even if they were stored outside the app's folder. However, this behavior isn't automatic, and a number of popular apps have not yet been updated to work this way. If you happen to use such an app to open one of its files stored in a different folder, it will first *copy* the file to its folder and then open the copy.
- If a document is stored outside the folder of the app that created it, and it hasn't yet been downloaded to your device when you try to open it, opening may fail. This is most likely a bug, and with any luck, Apple will address it soon.
- If you open a document on an iOS device that is *not* in the app's native format—for example, you open a plain text file from TextEdit in Pages—once again, the app typically copies the file, converts the copy to its native file type, and stores the new document in the same folder as the original. Any changes you make happen to the copy, not to the original.
- Similarly, iOS apps generally don't let you save their documents directly to another location in iCloud Drive,

but you can sometimes *export* them, creating a copy (perhaps in a different format) in the new location.

Now that you have a better idea of what to expect, let's look at a few examples of using iCloud Drive in other environments—within apps (on the Mac and in iOS), in the Files app for iOS, on the [iCloud website](#), and on Windows.

USE ICLOUD DRIVE WITH MAC APPS

In the Finder, double-click a document anywhere in iCloud Drive to open it in its default app. Alternatively, in an app's Open dialog, select the app's name under iCloud in the sidebar (if present) to open documents located in its app-specific folder, or select iCloud Drive under Favorites to navigate to any file the app can open. (If you can't open a file in the app, it appears dimmed and can't be selected.)

iCloud-enabled apps typically store new files, by default, in their app-specific folder within iCloud Drive, but you can override this choice as you like, and can also move documents to a different location after the fact.

AUTOSAVE AND ICLOUD

Apps that have built-in support for both autosave and iCloud Drive may automatically save copies of newly created documents—documents that you haven’t explicitly stored anywhere yet—in iCloud. This is apparently necessary for Handoff, which makes in-progress documents available to your other devices.

If this behavior is a concern to you, try one of these two remedies:

- Turn off iCloud Drive—either completely (meaning you won’t be able to take advantage of its other benefits), or only for a specific app (by going to System Preferences > iCloud, clicking Options next to iCloud Drive, and deselecting the app).
- Immediately save new files locally, rather than to iCloud. For more security considerations, see [Manage iCloud Security and Privacy](#).

USE ICLOUD DRIVE WITHIN IOS APPS

As I explained earlier, iOS apps aren’t entirely consistent when it comes to iCloud Drive. So I want to offer some broad guidance and then give a few specific examples.

Somewhere within most iOS apps that support iCloud Drive is a document picker that looks something like **Figure 11**. (It also, not coincidentally, looks almost exactly like the Files app introduced in iOS 11, which I discuss next.)

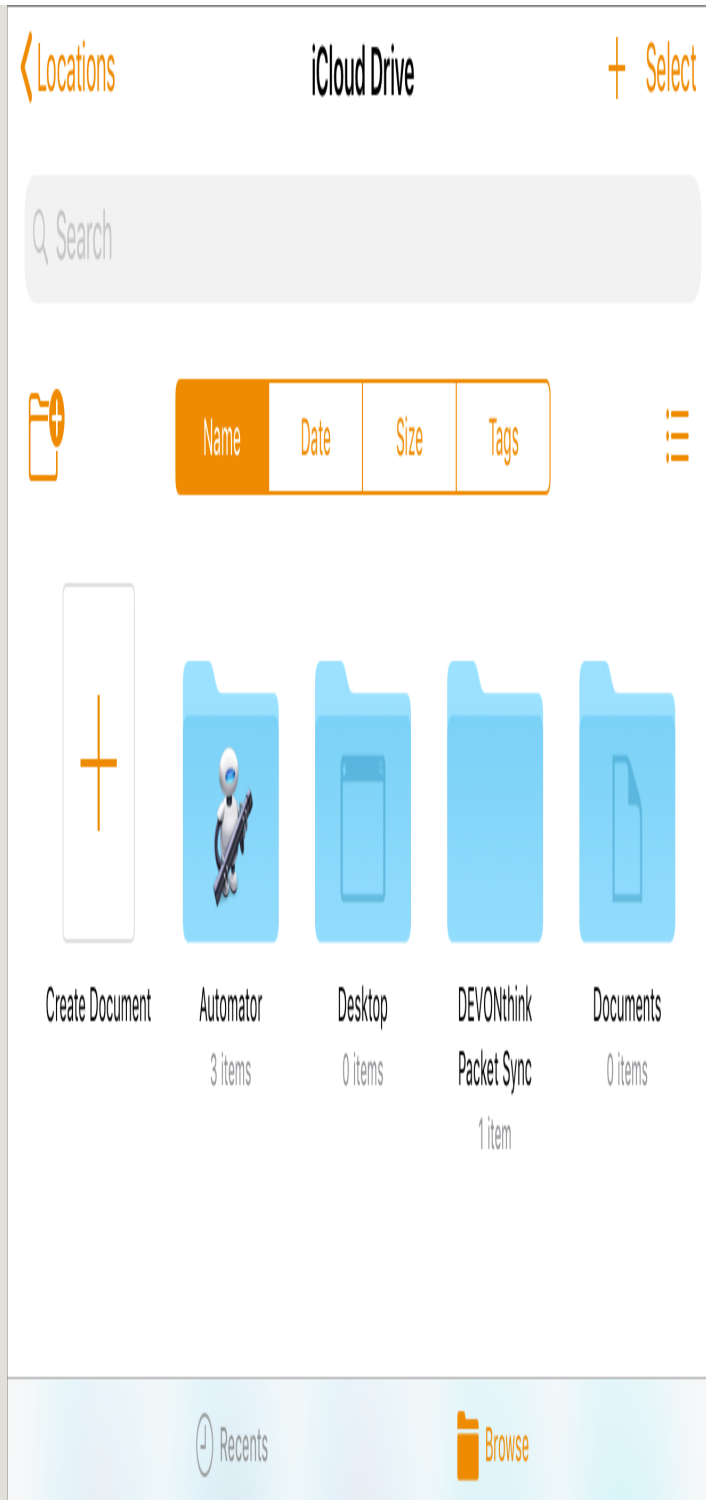



Figure 11: The iCloud Drive document picker in a typical iOS app. (You may need to swipe down to see the Search field and other controls at the top of the page.)

This is *not* the main file view. For simplicity, most apps show you only their own documents

by default—that is, what’s in the folder with that app’s name. (Remember, too, that some iOS apps use iCloud Drive exclusively for their own documents and provide no access to documents outside that folder.)

You may have to dig a bit to find iCloud Drive. For example:

- In the latest versions of iWork apps (Pages, Numbers, and Keynote), the iCloud Drive document picker is the first thing you see, by default, when you open the app. It may, however, initially be set to show Recents (recently modified documents); to browse through all your files, tap Browse at the bottom. If you already have a document open, tap the word or icon in the upper-left corner of the screen to see the app’s documents; to navigate up to the top level of iCloud Drive, tap iCloud Drive in the upper-left corner.
- In GoodReader, tap the Tools  icon and then tap Import (on an iPhone or iPod touch, you may have to swipe the control grid toward the left to see the Import button). Then tap either Import (Copy) from iCloud Drive or Open File from iCloud Drive.
- In Documents by Readdle, tap Documents > iCloud. Be aware, however, that this shows you only the app’s subfolder within iCloud Drive, not your *entire* iCloud Drive.

If you can’t find iCloud Drive, it may mean the app doesn’t fully support it—or the document picker might just be in an unexpected place. Check with the developer for guidance. (For more details on opening an app’s documents from another folder, see [Opening Documents in Other iOS Apps Is a Bit Different.](#))

USE THE FILES APP FOR IOS

For years, the only way iOS users could access iCloud Drive was from within supported apps (as I just described). Then, in iOS 9, Apple introduced a stand-alone iCloud Drive app for viewing and working with documents in iCloud Drive, which made the process more convenient and took iOS one big step closer to having a system-wide, user-accessible file system. In iOS

11, Apple took yet another big step, replacing the iCloud Drive app with an app Called Files.

Note: If you're running iOS 9 or iOS 10, you'll still have the iCloud Drive app.

Files, which is installed automatically with iOS 11 and later, looks and behaves much like the in-app iCloud Drive view I described a moment ago, except perhaps for the color scheme (**Figure 12**). It serves the same purpose, and can do all the same things, as the iCloud Drive app—but it goes beyond iCloud Drive in an important way.

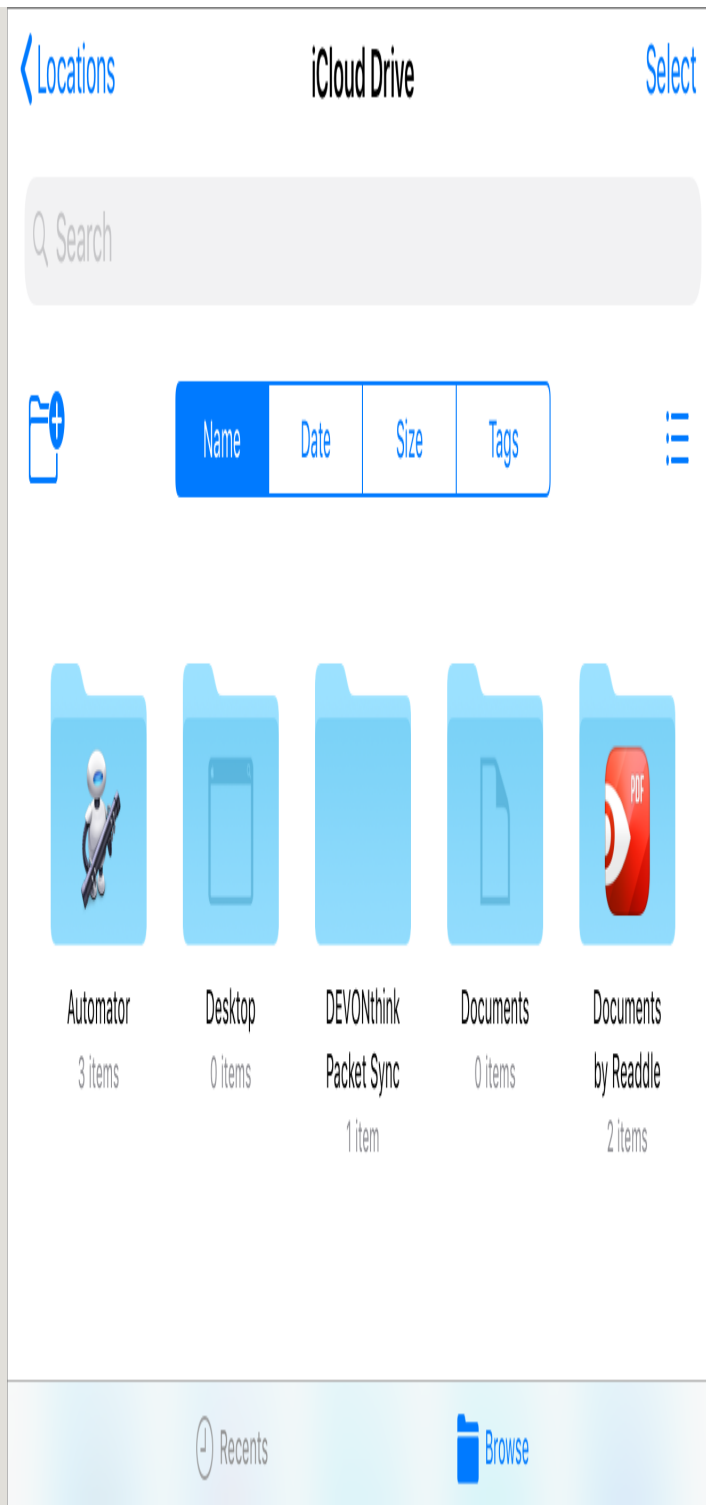



Figure 12: The Files app looks almost exactly like the in-app document picker. This view shows iCloud Drive (you may have to swipe downward to see the controls at the top), but the real magic lies behind the Locations link in the top-left corner.

What distinguishes the Files app from the iCloud Drive app is that it supports additional cloud service providers, as well as connections to numerous apps on your iOS device. So, just as you can navigate iCloud Drive and open, delete, or save documents there, you can do the same with a wide variety of cloud-connected apps (as long as they're installed on your iOS device)—Dropbox, Google Drive, OneDrive, Transmit, Resilio Sync, DEVONthink To Go, and numerous others. There's even an *On My Device* category for files stored locally on your iOS device and not in the cloud.

To view and navigate to these locations, start on the Browse screen and then tap Locations in the upper-left corner. (You may need to sign in the first time you use a new location.) To add new locations from supported apps on your iOS device, or disable existing locations, tap Edit (**Figure 13**) and then turn switches on or off; you can also drag the  handle to reorder them.

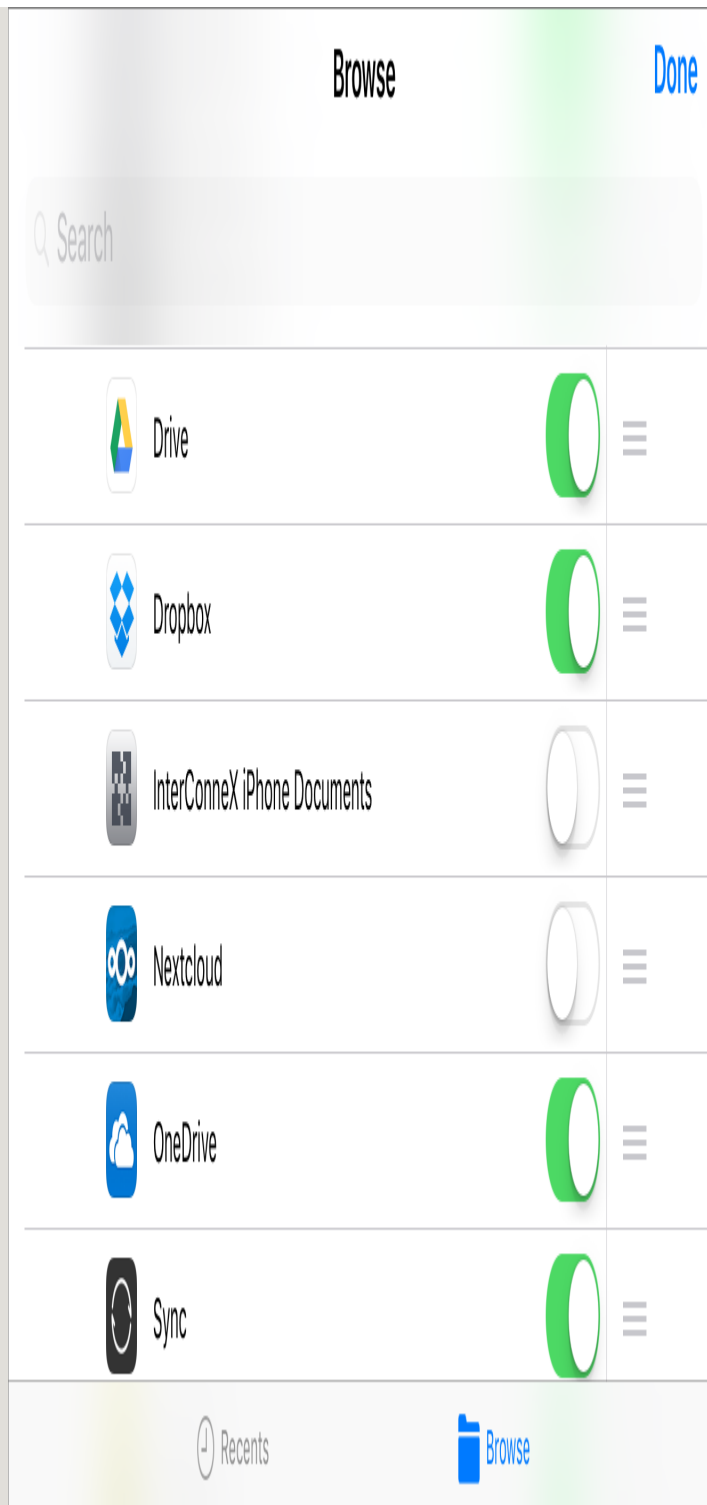


Figure 13: Enable, disable, or reorder locations in this view.

Each location in the Files app has its own interface and features—so what you see when you tap Dropbox, for example, will look much different from what you see when you tap

OneDrive. However, they should be similar enough to the stand-alone apps that you'll be able to figure them out easily.



If you navigate to a file in the iCloud Drive portion of the Files app, here are some of the more interesting things you can do:

- **Open it:** Tap the file to open it with the default app for that file type.
- **Rename it:** Long-press the file, and tap Rename on the popover.
- **Delete it:** Tap Select, select the file, and tap the Trash



icon or the word Delete.

Note: If you delete something stored on iCloud Drive, it appears in the Trash on your Mac, and in the Recently Deleted location on all your iOS devices.

- **Copy it:** Tap Select, select the file, tap the Folder  icon or the word Move, navigate to a new location, and tap Copy. Not all locations are valid destinations, and I have not yet been able to discern how Files decides where you can and can't copy things. In addition, even though you may tap the word Move, I have not yet encountered a situation in which Files actually permits me to move a file.
- **Share it:** Tap Select, select the file, and tap the Share  icon. Then, on the Share sheet, tap Add People. Tap Share Options to specify public ("Anyone with the link") or private ("Only people you invite") access, and whether you're sharing the file read-only ("View only") or read-write ("Can make changes"). Tap a destination (such as Message or Mail), fill in the recipient(s), and send the message.

You can also use the Search field at the top to search for files anywhere on your iCloud Drive.

Note: Some folders may be dimmed and thus inaccessible. This happens when the app in question is Mac-only and there's no iOS app that can open its files.

USE ICLOUD DRIVE ON THE WEB

If you need access to your documents in iCloud Drive on a computer that isn't signed in to your iCloud account (a friend's computer, say, or a computer at a hotel or library)—or if you want to engage in real-time collaboration in an iWork app—you can do so by visiting the [iCloud website](#) in a browser (see [The iCloud Drive Web App](#)). You can open documents from Pages, Numbers, and Keynote (see [The iWork Web Apps](#)), but otherwise, you can open a file only if the computer you're using has a compatible app.

USE ICLOUD DRIVE IN WINDOWS

After enabling iCloud Drive in the iCloud app (read [Set Up iCloud under Windows](#)), go to [C:\Users\your-username](#) and double-click iCloud Drive. There you'll see all your iCloud Drive documents and folders, and you can interact with them just as with any other folder on your PC. But note that even though you can see documents created on a Mac or iOS device, you won't be able to open them unless you have a Windows application that can read the appropriate file format.

ICLOUD DRIVE AND BACKUPS

Back in the day, Apple promoted iDisk as an online backup destination. And currently many people use online storage services such as Dropbox to provide backups of a sort (even though, in my judgment, they fall short of dedicated online backup services like [Backblaze](#)). So it's natural to wonder whether iCloud Drive might be used for backups, especially since extra storage space is quite inexpensive.

I'll put this as succinctly as possible: No.

To expand on that... iCloud Drive isn't like regular network storage, in that it stores a local copy of anything you put in it. It retains deleted files for up to 30 days (see [Restore Deleted Data](#)), but unlike Dropbox, it doesn't necessarily retain old *versions* (although some individual apps may store old versions). This means that *copying* data to iCloud Drive wastes disk space, while *moving* data there relocates it but doesn't back it up. If you delete a file in iCloud Drive on your Mac, the cloud copy disappears too (after 30 days).

My professional advice is to let go of the idea of using iCloud Drive for any sort of backups. That's not what it's for.

Looking at things from another angle, however, you should absolutely back up everything in iCloud Drive, along with the rest of your files, to one or more other drives or external locations. (In other words, whatever other backup apps(s) you may use—Time Machine, Backblaze, Carbon Copy Cloner, or whatever—make sure it includes the directory [~/Library/Mobile Documents/iCloud~com](#), which is where iCloud Drive stores its local copies of your files.) If something goes missing from your iCloud Drive, whether due to

malfunctioning software, a glitch on Apple's end, or user error, you'll want another way to recover your data.

As extra insurance, consider using an app called [Unclouder](#), which ensures you have local, versioned copies of everything in iCloud Drive—even of deleted items. Unclouder doesn't replace backup apps, but rather makes sure they have local copies of your files to work with. Note, however, that using this app nullifies the advantages of optimized storage (refer back to [Optimize Mac Storage](#)).

TROUBLESHOOT ICLOUD DRIVE

iCloud Drive has worked pretty much as expected in my testing so far, but I've read many reports of people who were less fortunate. If you run into trouble, here are a couple of tips that may help:

- **Syncing problems:** If files aren't syncing to or from your Mac as they should, confirm that you're signed in to System Preferences > iCloud with the same Apple ID you use on your other devices.
- **Anything else:** If you're having a different problem—or if the above tip doesn't work—it's always worth trying [The All-Purpose iCloud Troubleshooting Procedure](#) I described earlier.

I should also mention a few Apple support articles on the web that may help you with iCloud Drive problems and questions:

- [iCloud Drive FAQ](#)
- [Get help with iCloud Drive](#)

Use In-App Data Syncing

Not all apps are based on documents, but even those that aren't can use iCloud to synchronize other kinds of data. The easiest way to explain what I mean is by way of a few examples:

- [1Password](#) can use iCloud (as an alternative to a 1Password.com account or Dropbox) to sync passwords, credit card numbers, and other private data with other copies of the app running in macOS or iOS.
- Apple's [Podcasts](#) app uses iCloud to synchronize custom stations and playback positions (so you can start listening to a podcast on one device and continue on another).
- [Tweetbot](#), a cross-platform Twitter client, can use iCloud to synchronize mute filters, read/unread status for direct messages, and timeline position across devices.

In addition, when iCloud Drive is enabled, iCloud syncs a few other bits of data across your devices, including text abbreviations (from System Preferences > Keyboard > Text on a Mac, or from Settings > General > Keyboard > Text Replacement on an iOS device) and several types of settings and data for Apple Mail: signatures, flag names (see [this article](#) for how to change the names), and (only on Macs) rules and smart mailboxes. (Although Mail rules sync, their enabled/disabled state does not, since you might want different rules enabled on each Mac.)

Note: Although iCloud also syncs Mail's VIPs and previous recipients, that data is part of the Contacts category, not iCloud Drive. Go figure.

Developers must explicitly add iCloud syncing support to their apps, and not all apps are good candidates for this type of syncing. In general, iCloud syncing is turned off by default for third-party apps; you'll have to look through each app's preferences to see if it's supported and how to turn it on. More often than not, it's as simple as flipping a switch or choosing iCloud from a pop-up menu. On the other hand, Apple apps that use in-app syncing (such as Podcasts and Game Center) usually have iCloud syncing

turned on automatically with no way to disable it.

But remember, iCloud syncing is for Macs and iOS devices only. If you use an app that also has a version for Windows, Linux, or Android, you may be better off with an alternative syncing method, such as Dropbox, if it's offered.

ABOUT OPTIMIZED STORAGE


Optimized Storage is the term Apple uses for a collection of features in Sierra and later, all of which are designed to reduce the amount of disk space occupied on your Mac. Although Apple isn't crystal clear about which features are and are not considered part of Optimized Storage, the list appears to include at least the following:

- macOS automatically purges certain caches, logs, and duplicate downloads. In addition, when you download a disk image and install an app from it, macOS then asks if you want to delete the disk image. None of this is user-configurable, as far as I can tell.
- In the Storage Management window of the System Information utility, macOS shows you how much storage various apps and files use, and gives you a way to delete anything you consider clutter.
- If you like, macOS can automatically remove any file from your Trash after it's been there for 30 days.
- You can instruct iTunes to delete purchased movies and TV shows you've already watched (you can re-download them if needed).
- Apple Mail includes a preference that lets you specify whether to download all attachments, no attachments, or only recent attachments.
- You can enable iCloud Photo Library's Optimize Mac Storage setting in Photos to replace full-resolution local copies of your photos with lower-resolution versions if you start running low on disk space (see [Use iCloud Photo Library](#)).
- iCloud Drive can store your Desktop and Documents folders (see [Sync Your Desktop and Documents Folders \(or Don't\)](#)).
- An optional iCloud Drive setting, [Optimize Mac Storage](#), works much like the feature of the same name in Photos, except that it applies to files stored in iCloud Drive.

Significantly, however, only the last three of these features involve iCloud (and thus are the only ones I cover in this book).

Keep Mail, Contacts, and Calendars in Sync

Email, contact, and calendar data work together to help you with many day-to-day tasks, and they're the ones you'll most likely want to keep in sync across your Mac(s) and iOS device(s). Behind the scenes, they rely on different technologies to do their work—IMAP for email, CardDAV for contacts, and CalDAV for calendars—but the end result is that when you change email, contact, or calendar data on one device, iCloud pushes those changes to your other devices immediately.

This chapter discusses these three data types, but in the interest of simplicity, I've deliberately left out most of the boring instructions for doing things you may already know how to do or can figure out easily (or get help with by consulting the Help menu on your Mac or clicking the Help  icon on the [iCloud website](#)).

In this chapter, I also explain how to [Use Mail Drop](#), an iCloud feature that simplifies sending large attachments.

Work with iCloud Mail

Your iCloud account includes an email address in the icloud.com domain (and grandfathers in me.com addresses for those who had them before iCloud appeared—as well as, in some cases, mac.com addresses). Among other things, you also get 5 GB of free storage (shared with other iCloud services) and a lovely web interface for checking your email (see [The Mail Web App](#)).

In most respects, iCloud Mail is a conventional IMAP account. (For more on what that means, read my article [FlippedBITS: IMAP Misconceptions](#).) It stores all your filed and sent messages on a server, which also tracks which messages you've read, replied to, or forwarded. The result is that you can access your email on any device (even with a third-party email client) or in a web browser, and see exactly the same messages, in the same locations, with the same status.

With default settings, as soon as you enable Mail in iCloud's settings on each device, your iCloud Mail stays in sync across devices without any manual intervention—not because iCloud does anything special but because that's the way IMAP works. However, iCloud Mail differs from run-of-the-mill IMAP accounts in several respects:

- Setting up an iCloud Mail account on any Apple device is as easy as it gets—all you have to do is make sure Mail is turned on after entering your iCloud username and password.
- When used with iOS devices, iCloud Mail offers optional *push* updates, meaning you'll see messages the instant they come in rather than having to wait for the next scheduled check.
- iCloud Mail has a good webmail interface that supports searching message contents, setting up auto-responses, forwarding email to another account, uploading attachments with Mail Drop (see [Use Mail Drop](#)), and creating rules that automatically sort messages.
- Apple's mail servers provide basic spam and virus filtering. (Unfortunately, the mail servers don't seem to get smarter over time regarding what is spam and what isn't, unlike the spam filter built into Mail for macOS.) *However*, when iCloud Mail encounters an incoming message that matches certain criteria that Apple doesn't disclose, it doesn't merely label the message as Junk or move it to a Spam mailbox—the iCloud server summarily deletes it without any notice to the sender or recipient. (You can read about this in [Silent email filtering makes iCloud an unreliable option](#), at Macworld.) I find this approach disagreeable because all spam filters sometimes make mistakes.

- You can add up to three *aliases*—extra email addresses whose incoming mail is automatically forwarded to your main Inbox.
- iCloud Mail offers no way for you to use your own custom domain name. You may be able to forward email from another address to your iCloud Mail account, but you can't change your iCloud email address to one in a personal domain, nor can you use iCloud Mail to send out email from a non-iCloud address.
- iCloud offers no POP support at all.
- Although turning on Mail in System Preferences > iCloud (Mac) or Settings > *Your Name* > iCloud (iOS) syncs your messages and mailboxes, several other types of Mail settings and data sync only when iCloud Drive is enabled: signatures, flag names, previous recipients, VIPs, and (only on Macs) rules and smart mailboxes.

On the whole, iCloud Mail is not bad as email accounts go, although you may prefer more customizability or need additional features. If so, keep in mind that email providers are a dime (or less) a dozen—anyone can get a free account from Gmail, Outlook.com, Yahoo, and numerous other sources. So, if you find the limitations of iCloud Mail a turnoff, you're free to ignore it, or to use it only as a secondary account.

SYNCING MAIL RULES AND SETTINGS

As I mentioned above, as long as you have iCloud Drive enabled, iCloud also syncs Apple Mail rules, smart mailboxes, signatures, previous recipients, VIPs, and flag names across your devices. There's nothing to configure—it just happens. However, note the following qualifications:

- This feature has nothing to do with iCloud Mail—it works even if you have iCloud Mail disabled on all your devices and rely instead on other email providers.
- Although Mail rules sync across Macs, their state (enabled/disabled) does not, because you may want different rules to be enabled on different computers.
- iCloud does *not* sync rules with the Mail web app on the [iCloud website](#), only with the Apple Mail app.

ACCESS ICLOUD MAIL WITH OTHER EMAIL CLIENTS

If you're unsatisfied with the iCloud webmail interface but can't or don't want to use Mail on your Mac, you can use the email client of your choice on any platform, including Windows and Linux.


Just set up a new account using IMAP, with these settings:

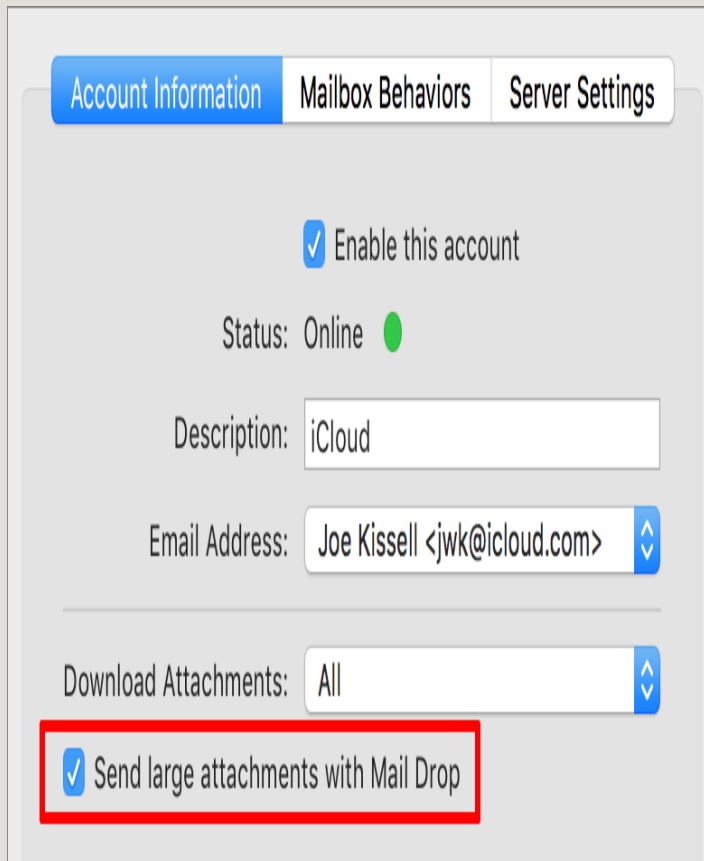
- **Incoming mail (IMAP) server:** imap.mail.me.com
- **Username:** Your (full) Apple ID
- **Password:** Your password (but this must be an app-specific password, which requires either two-factor authentication or two-step verification to be enabled; see [Use App-Specific Passwords](#))
- **IMAP authentication method:** Use "password" if your email client provides multiple authentication options
- **SSL for incoming mail:** Yes
- **Port:** 993
- **Outgoing (or SMTP) mail server:** smtp.mail.me.com
- **SMTP Authentication:** Yes; use "password" if your email client provides multiple options
- **SSL for outgoing mail:** Yes
- **SMTP port:** 587

Use Mail Drop

One way to avoid the aggravations of emailing large attachments is to send *links* instead. In other words: copy a file to cloud storage, follow the cloud storage service's procedure to get a URL for the file, and then email that URL. But that's an inconvenient, multi-step process.


A better way, available in Mail on all platforms (macOS, iOS, and web), is an iCloud feature called Mail Drop. In iOS it's always enabled. On a Mac, it's enabled by default for iCloud email accounts; for other IMAP and Exchange

accounts (but not POP accounts, which don't support Mail Drop), go to Mail > Preferences > Accounts > *Account Name* > Account Information and select Send Large Attachments with Mail Drop (**Figure 14**). In the Mail web app on the [iCloud website](#), enable it by clicking the gear  icon in the sidebar, choosing Preferences, and clicking Composing. Then check Use Mail Drop When Sending Large Attachments.





Account Information Mailbox Behaviors Server Settings

☒ Enable this account

Status: Online 

Description: iCloud

Email Address: Joe Kissell <jwk@icloud.com> 

Download Attachments: All 

☒ Send large attachments with Mail Drop

Figure 14: Enable Mail Drop for each of your accounts to eliminate the pain of emailing large attachments.

With Mail Drop, you compose a message and drag files in to attach them, just as you normally would. But when you click the Send button, Mail uploads attachments totaling over 20 MB or so (and up to 5 GB) to iCloud and inserts a link to the files in the message.

When the message arrives, the recipient sees a link that can be used to download the attachments. iCloud stores sent attachments for 30 days and then deletes them.

Sync Your Contacts

iCloud's Contacts feature lets you create, search, and organize an address book of the people and companies you interact with often. All the contact data synchronizes itself immediately among your various devices. Depending on which device you're using at the moment, Contacts may give you options to dial a phone number, compose an email message, map an address, and perform other tasks relevant to the contact you're currently viewing.

When you turn on Contacts in iCloud's settings, syncing begins at once and continues in the background. In some situations you may be asked if you want to merge contacts on your device with contacts already in iCloud—nearly always, the answer is yes. (Similarly, if you turn off iCloud Contacts on a device, you'll be asked whether you want to delete the local copy of those contacts; the answer to that is usually no.)

Note: Behind the scenes, the Contacts category also syncs VIPs and previous recipients from Mail.

Most of the things you'll need to do with contacts are self-explanatory. But two aspects of iCloud's contact syncing have always struck me as a bit weird and annoying, so I want to say a few words about those here. (I also offer problem-solving pointers for contacts at the end of the chapter, in [Troubleshoot Contact and Calendar Problems](#).)

WORK WITH CONTACT GROUPS

Groups are nothing more or less than lists of contacts. If you create a group in the Contacts app on the iCloud website or in the Contacts app (or the older Address Book app) on a Mac—say, all the members of your volleyball team or the coworkers in your department—then you can later send a message to everyone in the group simply by typing the group’s name into the To, Cc, or Bcc field when you compose a new message in Mail. That’s the obvious use for groups—in fact, it’s the whole point. Putting contacts in a group does give you the secondary benefit of being able to quickly narrow searches to just group members, but there are other ways to accomplish that.

In iOS, you can use a group when addressing a Mail message. When you type the name (or partial name) of a group in a message’s To, Cc, or Bcc field, the list of potential matches from Contacts now includes matching groups (each helpfully labeled with the word Group). Tap a group to add all its members as recipients.

However, groups in iOS have three main limitations:

- Mail adds all the email addresses for every group member to the address field. So if a contact has five email addresses in Contacts, all five of them are added. You’ll have to select them one by one in the address field and delete the ones you don’t want. But that’s tricky because Mail shows only the contact’s name, not the email address; to see which address any name uses, you must double-tap it to open the contact record and see which address has the word “Recent” next to its label. (No, that doesn’t make any sense to me, either.)
- As of iOS 12, Contacts in iOS still offers no capability to create groups, and although you can add someone to a group, you can’t remove someone. You’ll have to do all that on your Mac (or in the Contacts web app).
- Because Contacts for iOS has no concept of smart groups, any smart groups you created on your Mac won’t appear in iOS Contacts and thus won’t be available to iOS Mail.

Still, something is better than nothing, and perhaps a future version of iOS will overcome these limitations.

SHARE YOUR CONTACTS WITH SOMEONE ELSE

Although iCloud offers calendar sharing (described later in this chapter), it includes no comparable feature for contacts—not even with Family Sharing (see [Use iCloud Family Sharing](#)). Sure, you can export one or more contacts in industry-standard vCard format and email them to someone else, but there’s no way to keep contacts in sync between users. Apple apparently expects each iCloud user to maintain an independent list of contacts, but lots of people want to share a list of contacts with a family member, so additions and updates can happen just once instead of duplicating all that effort.

One way to *sort of* work around this problem is to create a new iCloud account (see [What If I Share an Apple ID with Someone?](#)). On each of your devices (yours and those of the family members with whom you will share contacts), add that iCloud account as a secondary account (see [Work with Multiple iCloud Accounts](#)) and turn *off* all services for that account except Contacts. Then put all the contacts you want to share in that account—and, to minimize confusion, delete them from your individual accounts(s). (As a variation, say I want to share all my contacts with my wife. Since I trust her with my iCloud credentials, we can skip the third iCloud account—I’ll add my own account on her devices as a secondary account, but leave only Contacts enabled.)

If you do this, be sure to check which iCloud account is the default account for contacts on your iOS devices (Settings > Contacts > Default

Account) so newly added contacts go where you expect them to.

However, this workaround is just that—a hack, not a solution. One downside to this approach involves your “me” card—the contact record that represents you. (To designate a card as “me” in Contacts for Mac, select the card and choose Card > Make This My Card.) You can’t have two separate “me” cards on any device, even if you have more than one iCloud account set up. So, if you designate a certain card as “me” in your personal iCloud account and the shared account has a card for you too, that change propagates to your shared account—meaning that all the people sharing those contacts have the same “me” card!

To avoid this problem, make sure your *shared* account doesn’t have cards for yourself or for anyone you’ll be sharing the account with.

ICLOUD AND OTHER CONTACT/CALENDAR SERVICES

If you have an iCloud account as well as an Exchange account, you can access contacts and calendars for both through Outlook on a Windows PC or through Contacts and Calendars on a Mac or iOS device. Likewise, you can access Google Calendar accounts in Calendar and Google Contacts in Contacts. The same is true for other contact and calendar providers.

The fact that a single app can show contacts and calendars for both iCloud and another provider has led some people to assume that somehow your iCloud account shares data with your Exchange, Google, or other account. But it doesn't! For example, if you make a change to your iCloud calendar on your Mac, that won't show up in your Exchange calendar when you view it on a PC. The accounts are entirely separate; they're merely displayed in the same place.

I have heard of various complicated workarounds that claim to sync contacts and calendars across services. But in my opinion, they're more trouble than they're worth. Let your iCloud account hold the data that belongs there; let your Exchange, Google, or other account hold its own data; and simply set up each of your devices to access all your accounts. Attempting to sync various cloud-based accounts with each other is a recipe for frustration.

Sync Your Calendars

iCloud's Calendar feature stores events and appointments of all sorts, pushes updates to all your devices automatically, and lets you access your calendar data in a web browser. You can also share calendars with other iCloud users,

send and receive meeting invitations, and perform quite a few other scheduling tasks.

As with contacts, most calendar activities are straightforward, but I want to explain a bit more about handling meeting invitations and shared calendars. (For tips on solving problems with calendars, see [Troubleshoot Contact and Calendar Problems](#).)

BETTER CALENDARS WITH BUSYCAL

Although Calendar has gotten better in recent years, I still prefer BusyMac's [BusyCal for Mac](#) for managing my calendars because it's more customizable and easier to use. It works great with iCloud, as well as Exchange, Google Calendar, and CalDAV. As with other third-party apps, if you use two-factor authentication or two-step verification with your iCloud account, you'll have to [Use App-Specific Passwords](#) in BusyCal.

INVITE OTHERS TO A MEETING

You can invite other people to join any event on your calendar. By setting up a meeting this way, you can keep track of who has agreed to come and send out updates if the event changes.

When you create an event, enter a name or email address in the invitees field to invite someone. As you type, Calendar looks for matching contacts in your iCloud Contacts list and offers a menu of possible matches. Select a contact from this list to accept it, or keep typing. After you add an invitee, you can repeat the procedure to add more.

After adding an invitee, click the person's name to open a pop-up menu with options such as Edit and Remove (or, in iOS, swipe to the left on a name to remove it). If you remove an invitee,

the event is deleted from that person's calendar; if you remove everyone after sending an invitation, a cancellation notice is sent.

For invitees who use iCloud, the invitation appears in Calendar's notification box on the iCloud website, as well as in Calendar on a Mac or iOS device. For other invitees, invitation messages include buttons (or links) for Accept, Decline, and Maybe. After clicking one of these, the invitee sees a confirmation page with a downloadable [.ics](#) file that can be used to add the event to Calendar or a third-party calendar app.


In addition, the event on your own calendar is updated with icons reflecting each invitee's status, and any responses also appear in your notification box.

WORK WITH SHARED CALENDARS

iCloud can share any calendar, either publicly or privately, using the industry-standard CalDAV protocol. When you share a calendar privately, you can assign read-only or read-write privileges on a per-user basis. This mechanism makes it practical for families, coworkers, and other groups to use iCloud for calendars that apply to multiple people—without jumping through lots of hoops or buying extra software. (Note, however, that families who [Use iCloud Family Sharing](#) get a shared Family calendar automatically and can skip this topic.)

Shared calendars can be viewed in iCloud Calendar, the Calendar app for Mac or iOS, or third-party calendar apps such as BusyCal and Microsoft Outlook.

Note: Behind the scenes, reminder lists (covered in the next chapter) are stored and synced exactly as calendars are, and can be shared in much the same way other calendars can—but only privately.

To share a calendar on a Mac, click the Share  icon that appears when you hover over the calendar's name in the sidebar. In the popover, you can share the calendar privately with only people you select—and you get to say who is allowed to edit the calendar—or you can share it publicly for anyone with the address to view (but not edit).

Note: The people with whom you share private calendars must be iCloud users. You can't share calendars between iCloud and Google Calendar or other services.

Troubleshoot Contact and Calendar Problems

iCloud Contacts and Calendar have been astonishingly problem-free for me over the past few years, but I've heard from a number of users who have experienced problems, especially duplication of entries when moving from another provider or app.

Because of the sheer number of variables involved, I can't offer specific solutions to every problem, but I can recommend Scholle McFarland's book [*Take Control of Calendar and Reminders*](#), which includes a troubleshooting chapter. I can also point you to Apple's extensive and helpful support articles:

Contacts troubleshooting:

- [Get help using iCloud Contacts, Calendars, or Reminders](#)

- [If you see duplicate contacts after setting up iCloud Contacts](#)

Calendar troubleshooting:

- [Get Help Using iCloud Contacts, Calendars, or Reminders](#)
- [iCloud: Advanced Calendar and iCal troubleshooting](#) (no longer being updated, but still contains useful information)
- [Get help with duplicate iCloud calendars](#)

Sync Other iCloud Data


In much the same way that iCloud delivers immediate push updates to your email, contacts, and calendars, it syncs several other types of information—browser bookmarks; your Safari tabs and Reading List; data from the iPhone’s Health app; Siri data; Reminders (a.k.a. tasks or to do items); Notes; iMessage conversations; and data from the News, Stocks, Home, and Voice Memos apps. (I discuss yet another type of data syncing in the next chapter, [Work with iCloud Keychain](#).)

These features aren’t at all flashy and there’s not a great deal to say about them, but in this chapter I give you an overview of how they work and point out a few cool things you may not have noticed.

Work with Browser Bookmarks, Tabs, and Reading List

The list of iCloud services on your Mac, PC, or iOS device includes either Safari (Mac and iOS) or Bookmarks (Windows). Either way, this item, when enabled, syncs these items:

- **Bookmarks:** When this setting on, iCloud syncs Safari bookmarks (or, in Windows, Internet Explorer, Firefox, or Google Chrome bookmarks) among your devices. (iCloud no longer syncs bookmarks with the Windows version of Safari; conversely, it won’t sync Firefox or Google Chrome bookmarks on a Mac.)
- **Safari’s Reading List:** For Macs and iOS devices, this feature also syncs Safari’s Reading List—webpages that you’ve saved to read later—either by choosing Bookmarks > Add to Reading List (Mac) or by tapping the

Share  icon and then Add to Reading List (iOS).

- **Safari's open tabs:** In a manner of speaking, iCloud also syncs Safari's open tabs—that is, it shows you which tabs are open on other devices, but doesn't automatically *open* the same tabs on each device.




If you click the Show All Tabs  button to the right of the Smart Search field in Safari on a Mac, the Tabs view appears with thumbnails of open tabs on the Mac as well as lists of the open Safari tabs on all the other devices signed in to the same iCloud account (**Figure 15**). Click a tab or tab name to open it.



Figure 15: See open Safari tabs on your other devices in this view.

Tip: If you hover over the name of a tab from another device, an X  icon appears. Click this icon to close the tab on the other device (after a brief delay).

In Safari for iOS, tap the Tabs  icon and swipe up (past the thumbnails of any open pages on the current device) to see a list of the tabs that are open in Safari on your other devices, grouped by device (**Figure 16**).

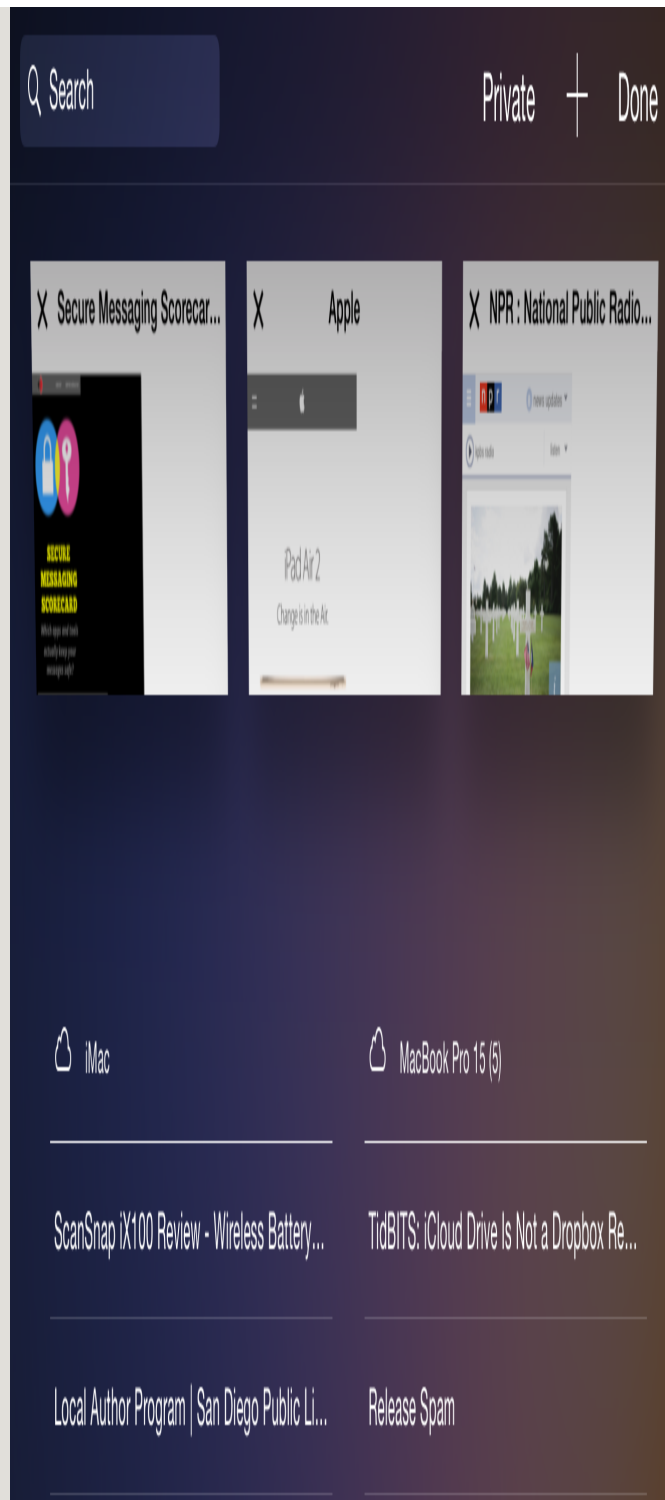


Figure 16: On an iOS device, you can see a list of the open tabs in Safari on your other devices.

Tap a tab name or image to open it on your current device. Or swipe to the left and tap Close to close a tab on another device.

Note: You might be surprised to find that pinned Safari tabs *don't* sync through iCloud, although they do appear in all Safari windows on a given Mac. That means you'll have to set up your pinned tabs how you like them on each of your Macs.

Sync Messages

Starting in iOS 11.4 and 10.13.5 High Sierra, a feature called Messages in iCloud enables you to keep all your iMessage and SMS exchanges from the Messages app in sync across all your devices. This feature can also take advantage of optimized storage, in that old messages are removed from a device if it runs low on space, but continue to be stored in the cloud.

To use Messages in iCloud, you must have iCloud enabled, including iCloud Keychain (see [Work with iCloud Keychain](#)) on your devices, along with two-factor authentication (see [Use Two-Factor Authentication](#)). Then you can enable Messages in iCloud on each device.

Enable Messages in iCloud on a Mac:

1. Open Messages.
2. Go to Messages > Preferences > iMessage > Settings (Mojave or later) or Messages > Preferences > Accounts > *Your iMessage Account* (High Sierra).
3. Select Enable Messages in iCloud.

You can then optionally click Sync Now to force an immediate sync.

Enable Messages in iCloud in iOS:

1. Go to Settings > *Your Name* > iCloud.
2. Turn on the switch next to Messages.

Once you've turned on Messages in iCloud on all your devices, your messages should begin syncing almost immediately; how long they take

to finish will depend on the quantity of message data you have and the speed of your internet connection.

Use Reminders

Reminders—which are also known as tasks or to do items—can be accessed in the Reminders app on most Apple devices—this includes the Mac, iPad, iPhone, iPod touch, Apple Watch, and HomePod—the Reminders web app on the [iCloud website](#), and for Windows users, in Outlook. They consist of text (the thing you want to remember) with a circle you can select to show the task has been completed, as well as optional alerts based on time or location. (On the HomePod, you can complete various Reminders-related tasks with your voice, such as adding an item to a list or hearing a list.)

Although you can independently turn Reminders on or off in the iCloud settings on an iOS device or a Mac, they're grouped with Mail, Contacts, and Calendars in the iCloud app in Windows. Behind the scenes, reminders are stored in special calendar files called reminder lists, and they can be shared much like calendars. But unlike calendar events, reminders need not be tied to a particular date or time.

Here are a few aspects of Reminders that deserve a more thorough discussion.


SHARE A REMINDER LIST

You can share a reminder list in much the same way as a calendar, but only privately. A great use for shared reminder lists is family shopping lists. My wife and I share a shopping list so if either of us is at the store, we can see what's needed and mark off items as we pick them up. And since it would be rare for either of us to be out of reach of a Mac or iOS device, we can

easily add things to the list wherever we may be.

Note: If you enable Family Sharing, you get a shared reminder list called Family automatically. You can use this for any purpose you like, or ignore it. See [Use iCloud Family Sharing](#).

To share a reminder list:

- **In the Mac Reminders app or on the web:** Hover to the right of a reminder list name to display the Share  icon; then, click that icon. Enter the name or email address of the person with whom you want to share and press Return to confirm; repeat if needed to add more people. Then click Done. iCloud notifies the other person, and the shared list appears in their Reminders apps.
- **In the Reminders app in iOS:** Open the list in Reminders, tap Edit, and then tap Sharing. Tap Add Person, fill in one or more names or email addresses, and tap Add. Then tap Done.

iCloud notifies the other people, and the shared list appears in their Reminders apps.

USE LOCATION-BASED REMINDERS

You can add an alarm to a reminder so that it notifies you at a particular time and date. But reminders can also alert you when you leave or arrive at a location. For example, you could ask to be reminded to pick up milk only when you walk by the grocery store, or have a reminder to set out the trash that appears when you get home.

Location-based reminders require a Mac, an iPhone, or an iPad with a cellular radio. The device must have Location Services enabled, too; if it's not, the first time you set up a location-based reminder you'll be prompted to turn it on (or to approve Reminders, if Location

Services is already on but Reminders isn't yet approved).

To add a location to a reminder, select it and click or tap its Info ⓘ icon (**Figure 17**). Then select At a Location (Mac) or Remind Me at a Location (iOS). Enter the address you want to trigger the reminder, type in a contact's name to use the contact's address, or choose Current Location from the pop-up menu. Then select whether you want to receive the alert when Arriving or Leaving and click or tap Done.

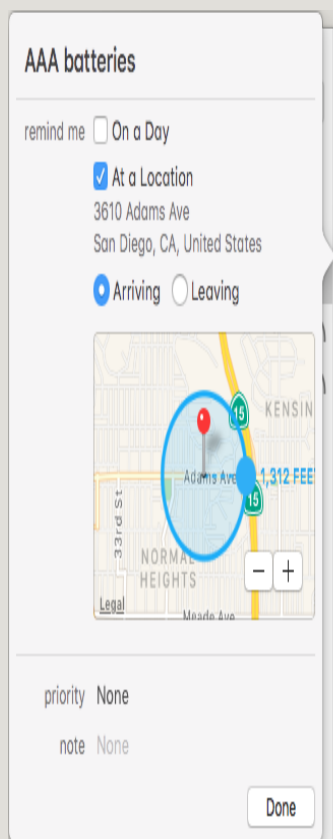


Figure 17: Set up a location-based reminder in Reminders on a Mac.

Tip: You can also use Siri to create a reminder like this. For example: "Siri, remind me to take out the trash when I get home."

When you arrive at or leave the location specified, your device should alert you with the

text of this reminder. However, bear in mind that network conditions and other variables may prevent location-based alerts from appearing at precisely the right place.


Note: For more on location-based reminders, see Scholle McFarland's [*Take Control of Calendar and Reminders*](#).


Work with Notes



If you need to store simple lists, text snippets, or other notes and sync them between your devices, Notes gives you an easy way to do so. For the most part, you simply type or paste whatever you want into the Notes app on a Mac, iOS device, or the iCloud website, and your notes sync automatically among all these devices.

Notes was once a pretty boring app. But over the past few years, Apple has enhanced the Notes app on all platforms with more capabilities. Here are some things you can do with Notes in iOS 11 or later and 10.13 High Sierra or later:

- Enter plain or styled text, which can now include headings; bulleted, dashed, and numbered lists; checklists; tables; a limited selection of paragraph styles; various levels of indentation; and bold, italic, or underline. In the Mac version of Notes, you can also change attributes such as font and color. The Notes web app offers more limited formatting options, but it does display attributes you added or changed on a Mac or iOS device.
- Attach files, such as photos, movies, sounds, PDFs, and other documents.
- Include URLs (such as those shared from a browser).
- On an iOS device, draw a sketch with your finger or a stylus in a note. (You can view sketches in Notes on a Mac, but you can't create them there...yet.) You can also use an iOS device's built-in camera to "scan" a document; Notes helpfully crops and deskews it for you.

- Intersperse sketches and typing in the same note—prior to iOS 11, you couldn't have both.
- Search for text that you wrote when sketching—pull down on the Notes list to see the Search field.
- Use the Share  menu in supported Mac apps, or the Share sheet in supported iOS apps, to send data (such as text, web pages, videos, and photos, as well as maps and routes from the Maps app) directly to Notes.
- On an iOS device, record your voice using the Voice

Memos app and then tap the Share  icon to send the clip to Notes.

- Add other people to individual notes (giving them the ability to collaborate in editing the notes) by clicking or tapping the Add People  button.
- Lock individual notes by encrypting them with a password; to do so, click the Lock  button.
- Use the Instant Notes feature to start a note by tapping your iPad's Lock screen with your Apple Pencil or by tapping the Notes button in Control Center—to add the Notes button to Control Center, go to Settings > Control Center > Customize Controls, and in the More Controls list, tap Notes. You can customize how this feature works in Settings > Notes > Access Notes from Lock Screen.

Note: Notes don't sync with any desktop app in Windows, so the only way to access your notes in Windows is on the iCloud website.

Sync Data from Other Apps

Beginning with iOS 11 and 12.13 High Sierra, iCloud optionally syncs data from Health and Siri; and starting with iOS 12 and 12.14 Mojave, iCloud also syncs News, Stock, Home, and Voice Memos data:

- **Health:** The iOS Health app, which appears only on iPhones, can use iCloud to save its data to Apple's servers and also sync it to other iPhones. This isn't terribly useful for most people—it would be quite nice if you could view that data on the web or on your Mac, for instance—but if you want to use it, just go to Settings > *Your Name* > iCloud on your iPhone and turn on Health.
- **Siri:** Macs and iOS devices can sync Siri data too. As you use Siri, it learns about you—your data, your

preferences, and your behavior—in order to customize its responses and make them more useful. Previously, this information was confined to each individual device; Siri on your Mac couldn't benefit from what Siri on your iPhone knew and so on. But, if you like, you can use iCloud to sync Siri data across all your devices, so that what it learns in one place is useful everywhere. To enable this feature on a Mac, go to System Preferences > iCloud and select Siri. On an iOS device, go to Settings > *Your Name* > iCloud and turn on Siri.

- **News, Stocks, Home, and Voice Memos:** Starting in Mojave, iCloud can sync data from four new Mac apps (which already had iOS counterparts) across your devices: News, Stocks, Home, and Voice Memos. The first three of these have their own checkboxes in the main part of System Preferences > iCloud. After you've recorded your first memo with Voice Memos, you can enable or disable syncing by going to System Preferences > iCloud, clicking the Options button next to iCloud Drive, and checking or unchecking Voice Memos.

Use Universal Clipboard

Introduced in iOS 10 and 10.12 Sierra, Universal Clipboard is a simple yet incredibly useful feature: anything you copy or cut to the clipboard on one device is immediately synced to the clipboard on your other nearby devices. So, you can copy text from your iPhone and paste it into an or app on your Mac, copy a photo from your iPad and paste it somewhere on your iPhone, and so on. This capability works with pretty much any type of data that's supported on both devices.

Note: After a brief but unspecified period of time, Apple clears the copied data from your other devices' clipboards.

Universal Clipboard has no explicit user interface—that is, there's no switch to turn it on or off, no settings to adjust. It's enabled automatically as long as the devices you're using for copying and pasting have the following attributes:

- For a Mac, its model must have been introduced in 2012 or later (or, in the case of the Mac Pro, 2013 or later).
- They are all running 10.12 Sierra or later, or iOS 10 or later.
- They are on the same Wi-Fi network.
- They have Bluetooth enabled and are within Bluetooth range of each other (roughly speaking, in the same room).
- They are signed in to the same iCloud account, and that account is the primary iCloud account on each device.
- They have Handoff enabled (in System Preferences > General on a Mac, or in Settings > General > Handoff on an iOS device).

Although the clipboard contents transfer over Bluetooth, this feature apparently uses an internet connection as well. After I was initially unable to get Universal Clipboard to work, I noticed that Back to My Mac was complaining about my DNS settings. So I fixed those, and immediately thereafter, Universal Clipboard started working. Unfortunately, that's about all I can offer in the way of troubleshooting advice.

Work with iCloud Keychain

iCloud Keychain, a feature available in macOS and iOS (sorry, Windows users), enables you to sync a *keychain*—which may contain passwords, credit card numbers, and other sensitive data—across your Apple devices securely via the cloud.

One big benefit of iCloud Keychain is that Safari and other apps on your iOS device can autofill usernames and passwords that you stored in a keychain on your Mac (and vice versa). Another benefit is that once you enter a Wi-Fi password on one device, it syncs to all your other devices, so you don't have to reenter it numerous times.

iCloud Keychain includes several other capabilities:

- A strong password generator built into Safari
- The capability to store and enter credit card information (except the CVV number) in web forms
- Support for multiple sets of credentials per site
- A way to view and remove passwords within Safari

In addition, if iCloud Keychain is turned on, your iMessage and SMS data can sync among all your devices (see [Sync Messages](#)), and the following items sync automatically amongst your other Macs (but not, alas, iOS devices):

- Settings for the accounts listed in the Internet Accounts system preference pane, such as email accounts and, for systems prior to 10.14 Mojave, Twitter, Google, Facebook, and LinkedIn
- Signatures you scanned or wrote in Preview (see [Take Control of Preview](#), by Josh Centers and Adam Engst), or using the Markup feature of Mail

iCloud Keychain is a useful tool—especially for people who use Apple devices exclusively, and who use only Safari on macOS. Some third-party password managers, including my favorite, [1Password](#), offer additional features such as greater flexibility in password creation, support for web browsers other than Safari as well as non-Apple operating systems, auto entry of CVV numbers, shared vaults, and storage of other types of information (for example, software licenses). But even if you use a third-party password manager, you may still find iCloud Keychain useful for things like Wi-Fi passwords and certain other applications.

Note: If you're interested in using 1Password instead of, or in addition to, iCloud Keychain start with [Use iCloud Keychain with Another Password Manager](#), at the end of this chapter. To look more deeply at 1Password, you might enjoy reading my book [Take Control of 1Password](#). For a thorough introduction to password security, read [Take Control of Your Passwords](#).

Enable and Configure iCloud Keychain

iCloud Keychain isn't very useful if you set it up on only one device; since syncing passwords is the main point of the features, you'll want to enable it on each of your Macs and iOS devices. Unlike most iCloud features, you can't simply flip a switch and turn it on. The initial setup process is considerably more involved. In addition, the steps you follow with whichever device you set up first will be different from the steps for setting up all subsequent devices.

If you've already set up your first device to use iCloud Keychain, skip ahead to [Approve Additional Devices](#); if all your devices are

already set up, move right on to [Use iCloud Keychain in Safari](#). Otherwise, start here.

Note: The instructions that follow assume that you have *not* enabled two-factor authentication for your Apple ID (see [Use Two-Factor Authentication](#)). If you have, setting up iCloud Keychain is much simpler—you'll simply turn it on, on each device, and enter your security code when prompted to do so.

SET UP ICLOUD KEYCHAIN ON YOUR FIRST DEVICE

When you set up your first device to use iCloud Keychain, you'll also be prompted to perform a one-time procedure to choose a security code, which can be used to approve additional devices. (There are other ways to approve additional devices, too, as we'll see.)

I suggest setting up a Mac before your iOS device(s). I say this because when you first set up iCloud Keychain, it copies most of the contents of your existing login keychain to the new iCloud keychain. Because your Mac almost certainly has more items in its login keychain than your iOS device does, your new iCloud keychain will be more useful, more quickly.

(If you have more than one Mac, start with the one whose login keychain has more items—you can check this easily by opening Keychain Access, in [/Applications/Utilities](#), on each Mac.)

Note: You may be prompted to set up iCloud Keychain while installing macOS, but if not, you can set it up manually afterward. The instructions here are for an after-the-fact setup, although the steps to configure iCloud Keychain during installation are similar enough that you should be able to follow along.

Set up iCloud Keychain on a Mac:

1. *Optional but recommended:* Go to System Preferences > Security & Privacy > General. Make sure the first checkbox (Require Password ___ after Sleep or Screen Saver Begins) is selected, and choose a time period from the pop-up menu to fill in the blank. You can skip this step, but if you do, the iCloud preference pane will complain about it later—and for good reason, because if your Mac is unlocked, someone else can access all your iCloud Keychain passwords.
2. Go to System Preferences > iCloud. If you haven't previously signed in to your iCloud account, do so now.
3. Select the Keychain checkbox.
4. When prompted, enter your Apple ID password and click OK.
5. Since this is the first of your devices on which you're setting up iCloud Keychain, you're prompted to create an iCloud Security Code, which you can use later, with your password, to set up other devices.

You can either enter a 6-digit numeric code or, for greater security, click Advanced and select one of the following:

1. *Use a Complex Security Code:* Enter a random password, a phrase, or another arbitrary code that you devise yourself or with the help of a third-party password generator.
2. *Get a Random Security Code:* Have Apple generate a long, random string for you, in the format **XXXX-XXXX-XXXX-XXXX-XXXX-XXXX**, where each **X** is a digit or uppercase letter.
3. *Don't Create Security Code:* Skip this step, with the consequence that when you set up iCloud Keychain on another device, you'll have to approve it from a different device. (For example, you can use Mac A to approve a request from Mac B, as long as both are running Mavericks or

later and signed in to your iCloud account.) See the Note just ahead for more details.

After entering the code in whichever form or opting out, click Next. Re-enter your code if prompted and click Next again. Then, assuming that you didn't skip setting up an iCloud Security Code, enter a mobile phone number, which can be used as a secondary means of verifying your identity via an SMS message, and click Done.

Note: Skipping the iCloud Security Code lets you sync keychains among devices *without* storing them on Apple's servers; it also avoids the need to enter an SMS number. However, it also means Apple will be unable to recover your iCloud Keychain if you forget your password, and you'll be out of luck if you lose access to all your approved devices. See [this FAQ](#) for more information.

macOS copies most of the items from your login keychain (Wi-Fi network passwords, application passwords, internet passwords, and web form passwords) to a new keychain called iCloud, and that's what syncs. You can edit this keychain—with either Keychain Access (found in [/Applications/Utilities](#)) or Safari (choose Safari > Preferences and click Passwords)—but bear in mind that it's a separate entity from your login keychain, so changes in one keychain won't affect the other.

Set up iCloud Keychain on an iOS device:

1. Tap Settings > *Your Name* > iCloud > Keychain, and tap the switch next to iCloud Keychain to turn it on.
2. When prompted, enter your Apple ID password and tap OK.
3. Follow the prompts (similar to those from step 5 in the instructions for setting up a Mac, just previously) to pick an iCloud Security Code—or skip it, if you prefer.

Your iOS device creates a new keychain called iCloud, containing any keychain information

(such as Wi-Fi passwords or passwords saved from Safari) that were stored on the device.

APPROVE ADDITIONAL DEVICES

After you've set up your first device and optionally set up an iCloud Security Code, you can set up your remaining devices. Begin by enabling Keychain in System Preferences > iCloud (Mac) or in Settings > iCloud (iOS), just as you did when you set up your first device. If you [Use Two-Factor Authentication](#), you don't have to jump through any extra hoops; just check the box or flip the switch to enable iCloud Keychain on your other devices.

However, if you don't use two-factor authentication, you must now *approve* each additional device in one of two ways:

- **Use Your iCloud Security Code:** If you choose this option (phrased as "Use Code" in iOS), you'll be prompted to enter your iCloud Security Code—and, in some cases, you may be required to enter a verification number sent to your mobile phone via SMS.
- **Approve from Other Device:** If you choose this option (phrased as "Request Approval" in iOS), iCloud sends a request to all your other devices using iCloud Keychain with the same Apple ID. On each of those devices, a notification (**Figure 18**) appears; clicking View in the notification on a Mac takes you to System Preferences > iCloud.

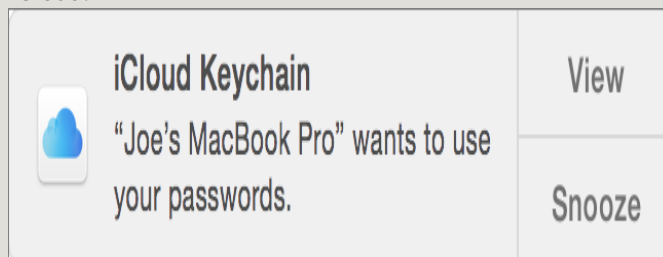



Figure 18: Your Mac notifies you that another of your devices wants to access your iCloud Keychain.

On the iCloud pane, click the Options button next to Keychain and then click Details next to the approval request. In the dialog that appears (**Figure 19**), enter your Apple ID password and click Allow. Or, on an iOS device, enter your Apple ID password when prompted and tap Allow.

< > ⋮

iCloud

Search



Allow "Joe's MacBook Pro" to use iCloud Keychain?

Enter the Apple ID password for "jwk@mac.com" to allow this new MacBook Pro to use your passwords.

Password:

[Forgot?](#)

Don't Allow

Cancel

Allow


(619)

Enter a phone number that can receive SMS messages.
It will be used to verify your identity when using your iCloud Security Code.

Cancel

OK

☒

Keychain

"Joe's MacBook Pro" requests approval.

Options...

Sign Out

You have 200 GB of iCloud storage.

188.86 GB Available

Manage...

Figure 19: Click Options followed by Details, and then enter your password to grant approval to another device.

Then, and only then, will your iCloud Keychain begin syncing.

Note: If you use the [Quick Start](#) feature in iOS 11 or later to set up a new device automatically based on settings of an existing device, that setup will include transferring your iCloud Keychain data.

Use iCloud Keychain in Safari

When it was first introduced, and for several years afterward, iCloud Keychain worked only in Safari. Starting in iOS 11, Apple made it possible for other apps to use iCloud Keychain (see [Use iCloud Keychain in Other Apps](#)), but we'll begin with Safari because that's where you're likely to use it the most. The behavior is similar in macOS and iOS.

ENABLE ICLOUD KEYCHAIN FEATURES IN SAFARI

Make sure Safari is set up to use all of iCloud Keychain's features:

- **Mac:** Go to Safari > Preferences > AutoFill and make sure the checkboxes are selected for each type of data you want to autofill—the two options relevant to iCloud Keychain are “User names and passwords” and “Credit cards.” Then click Passwords at the top and, if the screen says “Safari passwords are locked,” fill in the password for your macOS user account and press Return.
- **iOS:** First tap Settings > Passwords & Accounts > AutoFill Passwords, and make sure AutoFill Passwords is turned on and iCloud Keychain is selected. Then go to Settings > Safari > AutoFill, and turn on the Credit Cards switch.

AUTOFILL PASSWORDS

After you load a login page for which you've already stored credentials in your iCloud

Keychain, you can do any of the following to fill your credentials:

- Choose Edit > AutoFill Form (Mac)
- Press ⌘-Shift-A (Mac)
- Click or tap in the Username or Password field and then:
 - Click the credentials you want to use on the pop-up menu that appears (Mac)
 - Tap the credentials you want to use on the QuickType bar (iOS)

Safari fills in the username and password fields for you—all you need to do then is click or tap the Login (or equivalent) button.

On a Mac, if you've stored more than one set of credentials for a site—for example, if you have two different accounts for Google or Twitter—first delete the credentials Safari has autofilled, if any. You can then click in the username field to display a pop-up menu (**Figure 20**) with your logins; choose the one you want to fill in your credentials.

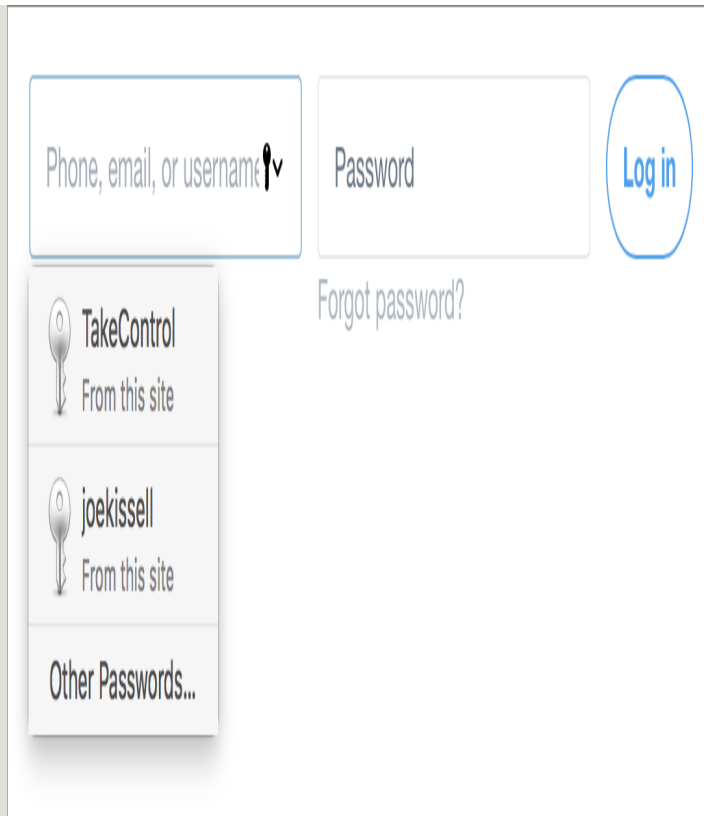


Figure 20: If you have multiple credentials for a site, click or tap in the username field to choose one.

On an iOS device with iOS 11 or later, websites for which you have multiple sets of credentials show two options on the QuickType bar (**Figure 21**); tap one of these to fill in both the username and password fields. To use a different set of



credentials, tap the key icon on the QuickType bar or the word Passwords to display a popover with all available credentials for that site.



Log in to Twitter

Phone, email, or username

Password

Log in

[Forgot password?](#) · [Sign up for Twitter](#)



Done

for twitter.com
joekissell

for twitter.com
TakeControl



q

w

e

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Figure 21: Safari for iOS uses a display like this when you have multiple sets of credentials for a particular site.

If Safari autofills a set of credentials and it's not what you want, delete them and try clicking or tapping the username field again. If they still don't appear (for example, because the domain names don't match exactly), do the following:

- **Mac:** Click Other Passwords. In the dialog that appears, locate the account you want (manually or using the Search field). Select it and click Fill.



- **iOS:** Tap the key icon on the QuickType bar or the word Passwords and then tap Other Passwords in the popover that appears. Type your passcode or use Touch ID or Face ID when prompted, then locate the account you want (manually or using the Search field) and tap it.

Some websites deliberately block browsers and password managers from saving passwords you enter there, in a misguided attempt at greater security. Safari can either accept or attempt to bypass any site's restrictions, but unfortunately, you can't control that behavior.

STORE NEW PASSWORDS

If you arrive at a login page for which iCloud Keychain does not yet contain your credentials, enter them manually (or with your third-party password manager) and log in. Safari should then display a prompt asking if you want to save the password in your iCloud Keychain. Click or tap Save Password to store your credentials for that site.

If you already have credentials stored for the site and you want to store an additional username/password combination, first delete the credentials Safari has autofilled. Then enter the new credentials, log in, and click or tap Save Password when prompted.

GENERATE A RANDOM PASSWORD

When you're asked to register on a website and create a new password, iCloud Keychain can generate one for you and store it automatically. Follow these steps:

1. Make sure the Password field is completely empty.
2. Click or tap in the field. The next steps vary by platform.

On a Mac:


1. Click the key  icon and choose Suggest New Password from the pop-up menu.
2. Safari fills in a suggested password (highlighted in yellow), but displays only the first few characters, along with the label "Strong Password." A popover with additional details may appear on its own; if not, click the field to display it (**Figure 22**).



Figure 22: Click a suggested password to see this popover.

3. To use Safari's suggested password (without even seeing the whole thing), click Use Strong Password; to fill in your own password (perhaps using a third-party password generator) instead, click Don't Use.

On an iOS device:



1. Tap the key icon on the QuickType bar or the word Passwords, and then tap Suggest New Password.
2. Safari displays a suggested password in a popover. To use it, tap Use Suggested Password; to fill in your own password (perhaps using a third-party password generator) instead, tap Cancel. If you've tapped Use Suggested Password, Safari fills it in.

3. Fill in any remaining fields (such as Username) and submit the form.

When you submit the form, Safari saves your credentials for the site without any additional steps.

STORE AND ENTER CREDIT CARD NUMBERS

Credit cards work much like passwords—if you type or paste a credit card number into a blank field (along with its expiration date) and submit the form, Safari prompts you to save the credit card number in your iCloud Keychain. (Remember, it doesn't save or store the CVV number from the back of your credit card.)

When it's time to fill in a stored credit card number, click or tap in the Credit Card Number field and choose the desired credit card from the pop-up menu—or from the QuickType bar in iOS. If you have more than one credit card stored, Safari displays a pop-up menu from which you can choose the one you want to use—just as when filling in your username and password on a site for which you have multiple sets of credentials.

Use iCloud Keychain in Other Apps

Starting in iOS 11, third-party apps can also access items in your iCloud Keychain. To use this feature in an app, go to the Sign In (or similar) screen. Tap in the username or password field. If iOS can identify which of the credentials in your keychain goes with the app in question, it displays them on the QuickType bar (**Figure 23**); tap your credentials to fill them in, and then tap Log In (or an equivalent button). If iOS can't find your credentials, or if the ones it displays are the wrong ones, tap the



key icon on the QuickType bar or the word Passwords, and then tap your credentials in the list that appears.



Log In

Forgot Password?

Back

OR

Create New Account

password for facebook.com
jk@



q

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e

r

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Figure 23: Tap a username on the QuickType bar to enter your credentials, or tap the key icon to choose different credentials.

View and Edit iCloud Keychain Contents

To see what's in your iCloud Keychain without entering it in a form—or to edit or delete anything from your keychain, you have a few options:

- In Safari for Mac, choose Safari > Preferences and click Passwords. If prompted, enter your user account password and press Return. You can then browse or search your web login items. Select an entry to see the password. To remove an item, select it and click Remove. To add a new item, click Add, fill in the fields, and press Return.
- In iOS, tap Settings > Passwords & Accounts > Website & App Passwords and enter your passcode (or use Touch ID or Face ID). For credit cards, tap Settings > Safari > Autofill > Saved Credit Cards and then enter your passcode (or use Touch ID or Face ID). You can swipe left on a keychain entry to delete it.
- You can also view or edit your passwords in Keychain Access (found in [/Applications/Utilities](#)) by selecting iCloud in the list of keychains in the upper-left corner of the window. (If you don't see the list of keychains, choose View > Show Keychains.) Keychain Access can also store and display secure notes in your iCloud Keychain, but those are visible only on a Mac, not on an iOS device. Unfortunately, Apple hasn't improved the awful interface that Keychain Access has had from day one, so I suggest avoiding it if you can.

Note: Strangely, the Mac version of Safari offers no way to view or edit stored credit card information—all you can do is add or remove cards (in Safari > Preferences > Autofill, click Edit next to “Credit cards”). Credit cards do appear in Keychain Access, but categorized as “application password.” Weird.

Tip: Having trouble with iCloud Keychain? Check out these two Apple support articles: [Frequently asked questions about iCloud Keychain](#) and [Get help with iCloud Keychain](#).

Use iCloud Keychain with Another Password Manager

What if you already use 1Password, LastPass, or another password manager? Does iCloud Keychain replace it?

In a word, no. iCloud Keychain is great for what it does—especially the way it handles Wi-Fi passwords so seamlessly—but third-party managers offer additional features.

For example:

- If you need to sync passwords with Windows, Android, or Linux—or with Macs running versions of Mac OS X earlier than Mavericks, or pre-iOS 7 devices—iCloud Keychain won't help you, but numerous third-party password managers can.
- Likewise, iCloud Keychain is currently unavailable in Mac browsers other than Safari, so unless or until such support exists, you'll need something else if you want to use a different browser.
- When iCloud Keychain generates passwords, they're always exactly 20 characters long, with the form **XXXXX-XXXXX-XXXXX**, where each **X** is an alphanumeric character. If you want the greater security that comes from a longer or more complex password, a third-party password manager offers more options.
- iCloud Keychain doesn't store or fill the CVV numbers on your credit cards, but most third-party password managers can.
- Some password managers, such as 1Password, can store additional types of secure information, including software licenses and even arbitrary documents, in a safely encrypted form. If you need to store more types of information than iCloud Keychain can handle, another app may suit your needs better.
- iCloud Keychain offers no way to securely share certain passwords with other people (for example, coworkers or family members), whereas a number of third-party password managers do.

In iOS 12, Apple made it possible for third-party password managers to fill in your credentials in most of the same places that iCloud Keychain can. As a result, it's now much easier than before to rely on an app like 1Password or LastPass (almost) exclusively. I spell out the details in my TidBITS article [Inside iOS 12: Use Third-Party Password Managers to Simplify Logins](#).

It is nevertheless possible to have both iCloud Keychain and another password manager enabled at the same time. You should, however, be aware of a few issues:

- When credentials for a given site are stored both in iCloud Keychain and in another password manager, it's easy to get confused as to which tool you're using when filling forms, and you'll have to put up with extra visual clutter, too.
- Because Apple strictly limits access to Keychain data, there's no easy way to import existing keychain entries into a third-party password manager or vice versa.
- Although iCloud Keychain syncs among your devices—and another app may also sync its passwords among devices—iCloud Keychain won't sync with any third-party password managers. So, for example, if you change a password in 1Password, you'll have to change it again in iCloud Keychain.

Use the iCloud Website

iCloud is mostly about keeping data in sync across all your devices, but several key types of data can also be viewed and edited on the [iCloud website](#) in robust web apps—Mail, Contacts, Calendar, Photos, iCloud Drive, Find iPhone (that is, Find My *Device*), Find Friends (that is, Find My Friends), Notes, Reminders, Pages, Numbers, and Keynote. (If you’ve enabled it, there’s also a News Publisher web app, which appears only on the [iCloud website](#), with no Mac or iOS version.)

You may consider the web apps irrelevant, because you find the native apps running on the Mac and in iOS more powerful and convenient. But, if you use other operating systems (Windows, Linux, Android) where these apps aren’t available natively, the iCloud site can make crucial features available to you. And, even if you almost always use your own Mac or iOS device, you may occasionally use someone else’s computer (or a public computer), and in such cases, find that the [iCloud website](#) is the best way to access your iCloud data.

The iCloud website’s features and user interface have been updated numerous times, and I expect that trend to continue. As a result, I make no attempt to provide detailed instructions for each of the ever-changing iCloud web apps. Instead, I provide a general overview of what’s on the site (as of November 2018) and how to navigate it. I then offer a few tips for getting the most out of the web apps and locating obscure features.

Navigate the iCloud Website

When you visit the [iCloud website](#), you see fields for entering your Apple ID and password, an optional Keep Me Signed In checkbox, and a few informational links at the bottom.

Once you are signed in, keep in mind just a few things:

- **Opening apps:** On the home screen that appears after you sign in (**Figure 24**), click an app's icon to go to that app (or, if you prefer, press the arrow keys to move between icons and press Return or Enter to open the selected one).



Figure 24: It doesn't get much simpler than this: click an icon on the home page to go to the corresponding web app.

- **Switching or closing apps:** Click the current app's name in the upper-left corner (or press Shift-Esc) and then click the name of another app (**Figure 25**). Or, to return to the home screen, click the app's name and then click Launchpad.

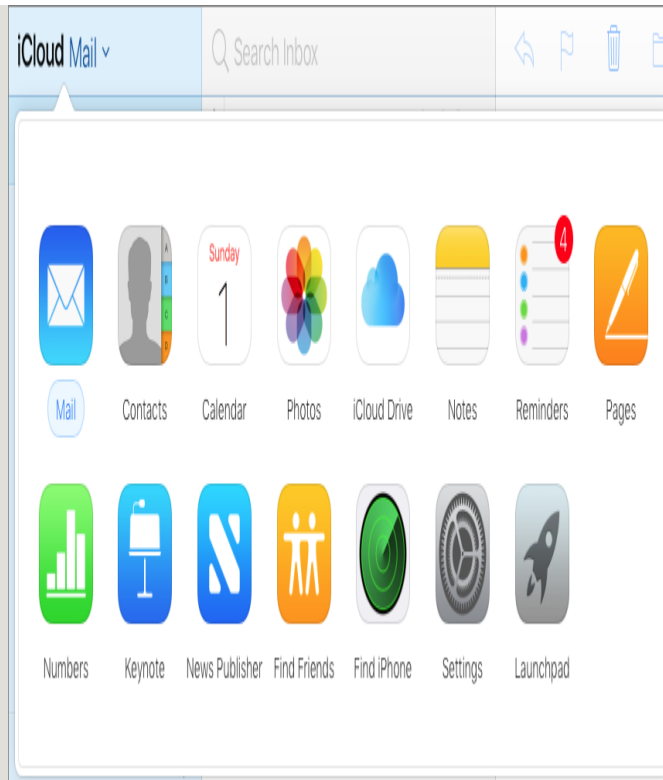


Figure 25: The iCloud app switcher appears when you click the current app's name in the corner of the window.




- **Settings and signing out:** On any screen of the website, click your name at the top to display a pop-up menu that lets you view account settings or sign out.
- **Finding help:** Click the ever-present Help  icon in the upper-right corner. A separate window with help appears (**Figure 26**). This help is actually *helpful*. I mean, it's no Take Control book, but seriously, it's not bad. A table of contents appears in a sidebar on the left; if you don't see it, make the window wider or click the Table of Contents  icon in the Help window's upper-left corner. Or, to search the help, click the Search  icon in the upper right.






Figure 26: iCloud’s online help is well worth reading.

That introduction out of the way, let’s take a quick spin through each of the web apps.



The Mail Web App

The Mail web app doesn’t approach the full capabilities of Apple Mail in macOS, but it’s quite similar to Mail in iOS (and, in fact, more powerful in some respects). Here are a few of the highlights:

- **View a message:** Click any message in the list; its contents appear in the preview pane. Or double-click a message in the list to open it in a separate window.
- **Message actions:** The icons at the top of the screen can be used to reply/forward, flag, delete, move, and compose messages. You can also drag messages to other mailboxes to move them.
- **Sidebar:** iCloud Mail’s sidebar lists your mailboxes, but it may be hidden. If you don’t see it, click the tiny right arrow  button at the top of the message list display it; click the left arrow  to hide it. However, if the sidebar isn’t showing, you can drag a message from the message list to the left to file it elsewhere—the sidebar will open temporarily while you drop the message into a new location.


- **Keyboard shortcuts:** iCloud Mail has many keyboard shortcuts; to see a list, visit [this help page](#).
- **Mailboxes and folders:** For reasons I can't comprehend, iCloud Mail uses the term "mailbox" for the built-in mailboxes such as Inbox, Sent, and Trash; but it calls user-created mailboxes "folders." You can add, delete, or rename folders as needed. Although you can move a folder into or out of another folder, you can't reorder folders, at any given level, by manually dragging them. However, since folders are sorted alphabetically, you can customize their order by using a little creative renaming.
- **Preferences:** iCloud Mail has many preferences you can adjust. To do so, click the gear  icon in the sidebar, choose Preferences, and then click a category (such as General or Composing).


Note: One of the preferences you can enable is Mail Drop, which works much like its macOS and iOS counterparts. For details, see [Use Mail Drop](#).

- **Aliases:** Your iCloud account comes with an icloud.com email address, but you can also configure up to three *aliases*—extra icloud.com email addresses that deliver messages to your main account. To set these up, click the gear  icon in the sidebar, choose Preferences, and click Accounts. The left side of the Accounts pane lists any aliases you've already set up. To add one, click "Add an alias." To disable one, select it and check Disable Alias, or you can delete it permanently (and irrevocably) by clicking Delete.
- **Rules:** iCloud can run server-based rules on incoming messages—for example, filing them in specific mailboxes based on their sender or subject. Even though most desktop clients can do the same thing, iCloud Mail's rules can sort messages before they appear on your iOS device—which overcomes, to some extent, the lack of a rules feature on these devices. iCloud Mail's rules are far less powerful than Gmail's, but they're still quite useful. To set up rules, click the gear  icon in the sidebar and choose Rules.

The Contacts Web App





The simple Contacts app is straightforward, but I want to point out two less-obvious items, both located at the bottom of the left-hand sidebar:

- **Gear menu:** Click the gear  icon to display a menu with commands for Preferences, Import vCard, Export vCard, and other useful controls.

- **Add a contact or group:** Click the plus  icon to display a menu with New Contact and New Group commands.






The Calendar Web App



You can manage appointments, meetings, and other events online in the Calendar web app, which looks and acts much like Calendar on a Mac or iOS device. I want to point out a handful of important features:

- **Sharing:** To share a calendar or change the settings for an already-shared calendar, click the Share  icon next to it. (I say more about this in [Sync Your Calendars](#).)
- **Gear menu:** Click the gear  icon in the lower-left corner of the window to display a menu with important controls, such as Preferences, New Event, and New Calendar.
- **Calendar list:** Click the Calendar List  icon at the bottom of the window to show or hide the sidebar containing a list of your calendars.
- **Notifications:** Click the Notifications  icon at the bottom to display notifications such as events added by someone else sharing your calendar and meeting replies.

The Photos Web App




Use the Photos web app to view and work with the items in your iCloud Photo Library, albeit to a more limited extent than in the Photos app for macOS or iOS. Some of the key things you can do are:

- **Download photos, add them to an album, or delete them.** Select one or more photos (you can hold down Command to select multiple photos), and then click an icon at the top of the window (such as Download , Add , or Delete ).
- **Mark a photo as a favorite.** Hover over the photo's thumbnail, and click the heart icon that appears in its lower-left corner. Or, if the photo is open, click the heart  icon at the top of the screen.
- **Upload a photo.** You can upload new photos (in JPEG format only) by clicking Upload  at the top of the window. (You can't upload videos to the web app.)

- **Work with albums.** If the sidebar is visible, find your albums there; if not, click the Albums button at the top of the window. Select one or more photos and click the Add  icon to create a new album or add photos to an existing album. When viewing an album, you can remove a photo from it by selecting the photo and clicking the Delete  icon.


The Notes Web App

Like the Notes app in macOS and iOS (see [Work with Notes](#)), the Notes web app offers these capabilities:

- To apply a style (your choices are Title, Heading, Body, Monospaced, Bulleted List, Dashed List, Numbered List, Bold, Italic, or Underline), click the Style  icon to display a popover with style controls.
- To turn the selected paragraph(s) into a checklist, click the Checklist  icon.
- You can add other people to a note (allowing them to collaborate in editing the note) by clicking the Add People  button.

Although the Notes web app can display attachments, URLs, and other text styles created with the Notes app on other platforms, it currently offers no way to add those attributes. It also offers no way to lock notes with a password, as you can in the macOS and iOS versions of Notes.

The Reminders Web App

The simple Reminders app is easy to work in. One feature that you may not find obvious is that if you want to share a reminder list (see [Use Reminders](#)), you must click its Share  icon (which is quite dim until you hover over it).


The iWork Web Apps

The three iWork for iCloud apps (Pages, Numbers, and Keynote) represent a remarkable piece of engineering, because they include the majority of the capabilities of the iOS and Mac

versions of the apps—and all inside a web browser. If you’ve used iWork on either of the other platforms, you’ll find the web app versions similar.

To learn more about any of these apps, click the



Help icon on its Document Manager page, choose Get Help, and then (if necessary) click the Table of Contents  icon.

Tip: For more about the iWork apps, read Michael Cohen’s [*Take Control of Pages*](#), Sharon Zardetto’s [*Take Control of Numbers*](#), or my own (somewhat outdated) [*Take Control of Keynote*](#).

The iCloud Drive Web App

The iCloud Drive web app lets you view your files and folders. You can use the icons at the top of the page to create folders and to upload, download, delete, and email documents; you can also rearrange items using drag and drop. If you double-click a Pages, Numbers, or Keynote document, it opens in the corresponding web app.

The Find Friends Web App

This web app can be used to locate friends who’ve shared their locations with you and is quite similar to the iOS version I describe later in [*Find Your Friends*](#); refer to that topic for details.

I do want to point out a few things about the web app, however:

- When you open the Find Friends web app, your browser may prompt you for permission to use your current location. This is so that iCloud can show you where your friends are in proximity to you. If you don’t allow your location to be shared, you can still see where your friends are, but you won’t see your own location.

- The web app doesn't include a Notify Me option (to be informed when a friend leaves or arrives at a given location); it also lacks the iOS version's Contact and More links (which show you the person's record in Contacts and current address, among other things).
- Although you can click your name in the lower-left corner of the screen to see and change which device reports your location, you can't change that device to be the computer you're using to view the web app, because Find My Friends requires the more precise data that GPS-equipped devices can provide.

The Find iPhone Web App

Just as Find Friends is the web app version of Find My Friends, Find iPhone is the web equivalent of Find My *Device*. If your Mac or iOS device has been lost or stolen, then assuming it had Find My *Device* activated, you can use Find iPhone to locate it—and play a sound on it, lock it remotely, or even wipe its contents. I discuss this app in some detail later, in [Find Your Device with a Browser](#).

The News Publisher Web App

There's one final web app, but most iCloud users won't see it. It's called News Publisher, and it's a tool that enables publishers (including individual bloggers) to add their content to the News app in iOS 9 or later. At present, it supports only RSS feeds, but in the future Apple promises to support a new Apple News Format, which will open the door to additional capabilities (including advertising, optimized loading, and custom layouts).

To learn more about News Publisher, to sign up for the service (which activates the News Publisher web app), and to submit one or more RSS feeds for Apple's approval, see Apple's [Publishing with Apple News Format](#) page.

Settings

Although not quite a web app like the other items discussed here, the Settings page lets you view (and in some cases manage) your Apple ID, language, time zone, storage, devices, Family Sharing, and other iCloud features. It also lets you restore certain items you may have deleted from iCloud. I discuss all this later, in [Change iCloud Website Settings](#).

Find My Nouns

First there was Find My iPhone, a feature that allowed you to, you know, find your iPhone if it was lost or stolen. Even though Apple later extended the capability to the iPod touch, the iPad, Macs, the Apple Watch, and even AirPods, the “Find My iPhone” name is still used generically to describe this feature. I find that somewhat confusing, so to reduce ambiguity, in this book I use “Find My *Device*” when talking about the feature as it applies generically to various Apple devices.

What complicates things is that you can find other *people*, too, using the Find My Friends app. This is limited, of course, to people carrying iOS devices (or cellular-enabled Apple Watches)—so really it’s “Find My Friends’ iOS Devices or Apple Watches.” So, for want of a better term that encompasses people and assorted Apple devices (plus whatever else may be added in the future), I’m calling all these capabilities collectively “Find My Nouns.”

Understand What Find My Device Can and Can’t Do

You can use the iCloud website, Apple’s Find My iPhone app on any iOS device, or (starting in iOS 12 and Mojave) Siri to locate a lost or stolen Mac, iPad, iPhone, iPod touch, Apple Watch, or AirPods.

You can also play a sound, lock a Mac or iOS device (optionally adding or changing its passcode in the process), or erase all its data (to keep it private in case you’re unable to retrieve the device). You can even see your wayward device’s battery level—and you can activate Lost

Mode on an iOS device or Apple Watch, which displays the phone number and message of your choice on the missing device's screen, in the hope that whoever has your device will call you to arrange for its return.

Find My *Device* works more reliably on devices with cellular capabilities, such as the iPhone, certain iPads, and certain Series 3 or later Apple Watch models. These devices are more likely to have an always-on network connection—cellular access is pretty ubiquitous, whereas Wi-Fi is spotty. (Series 2 and later Apple Watch models, and iOS devices with cellular support, also have GPS chips, so their reported location is more precise than for Macs and for iOS devices that lack GPS.)

In addition, the iPhone and iPad maintain their mobile connections even when “sleeping,” whereas a Mac or iPod touch won't display any messages or report its location until it's woken up. (An exception to this rule is any Mac laptop that uses solid-state storage—such Macs support Power Nap, which among other things enables Find My *Device* to work when they're sleeping. See Apple's article [How Power Nap works on your Mac](#) for more information.)

DOES FIND MY DEVICE INCREASE HACKING RISKS?

In late 2014, a number of online publications reported hacks in which someone obtained users' iCloud usernames and passwords, used them with Find My *Device* to lock the owners' Macs, and displayed messages demanding a ransom (in Bitcoin) to unlock them.

Unfortunately, the design of Find My *Device* made this possible even if the user had two-factor authentication enabled.

Because of the possibility of this hack, several prominent sources recommended *disabling* Find My *Device*. But that's terrible advice! This feature is there *for your security*, and disabling it is the wrong response to the problem, like leaving a door open because someone may have found the key.

The right response is to make sure your iCloud password is long, strong, and *different from all your other passwords*. The only reason this exploit worked is that the hackers stole usernames and passwords from *other* sites, and some people injudiciously used the same password for iCloud as they had for the compromised sites. To learn more about password security, [Choose a Good Password](#).

Activate Find My Device

Before you can use Find My *Device*, two prerequisites must be met on the target device (the one you'll attempt to find, if it goes missing):

- A mobile device must be running iOS 5 or later, and a Mac must be running 10.7.2 Lion or later. (On an Apple Watch, Find My Watch is activated automatically as long as Find My iPhone is enabled on the iPhone to which it is paired.)
- You must activate Find My *Device* on the target device. To do this on a Mac, go to System Preferences > iCloud and

make sure Find My Mac is checked. On an iOS device, tap Settings > *Your Name* > iCloud and make sure Find My *Device* is on; if not, tap Find My *Device*, tap the switch to turn it on, and optionally turn on Send Last Location, which sends the location automatically when the battery is nearly depleted.

Note: Although you can set up more than one iCloud account on a Mac or iOS device, Find My *Device* can be enabled for only one of the accounts (the first one you set up).




With your device(s) properly configured, you can then find the device using either the iCloud website (as described next) or the Find My iPhone app installed on another iOS device—yours or someone else’s—as I discuss in [Find Your Device with an App](#).

Warning! As Adam Engst explains in his TidBITS article [Disable Find My Mac by Resetting NVRAM](#), it’s easy for an attacker or thief to disable Find My Mac on your Mac unless you’ve enabled a firmware password (which carries its own risks). That’s not to say you shouldn’t use the feature, but you should be aware of its potential limitations and what you must do to mitigate them.

Find Your Device with a Browser

The first way to find your device is to use a web browser. To do so, sign in to the [Find Your Device with an AppleID website](#) and go to the Find iPhone web app.

Initially, the entire window shows a map on which iCloud tries to locate all your devices. If you have more than one device and want to focus on just one, click All Devices at the top of the screen to display a popover (**Figure 27**). In the My Devices list, a dot appears beside each

device name to indicate its status: gray  means "offline" or "trying to connect," red  means "location unknown," and green  means "online." If you use iCloud Family Sharing, the popover also lists each family member's devices under that person's name.

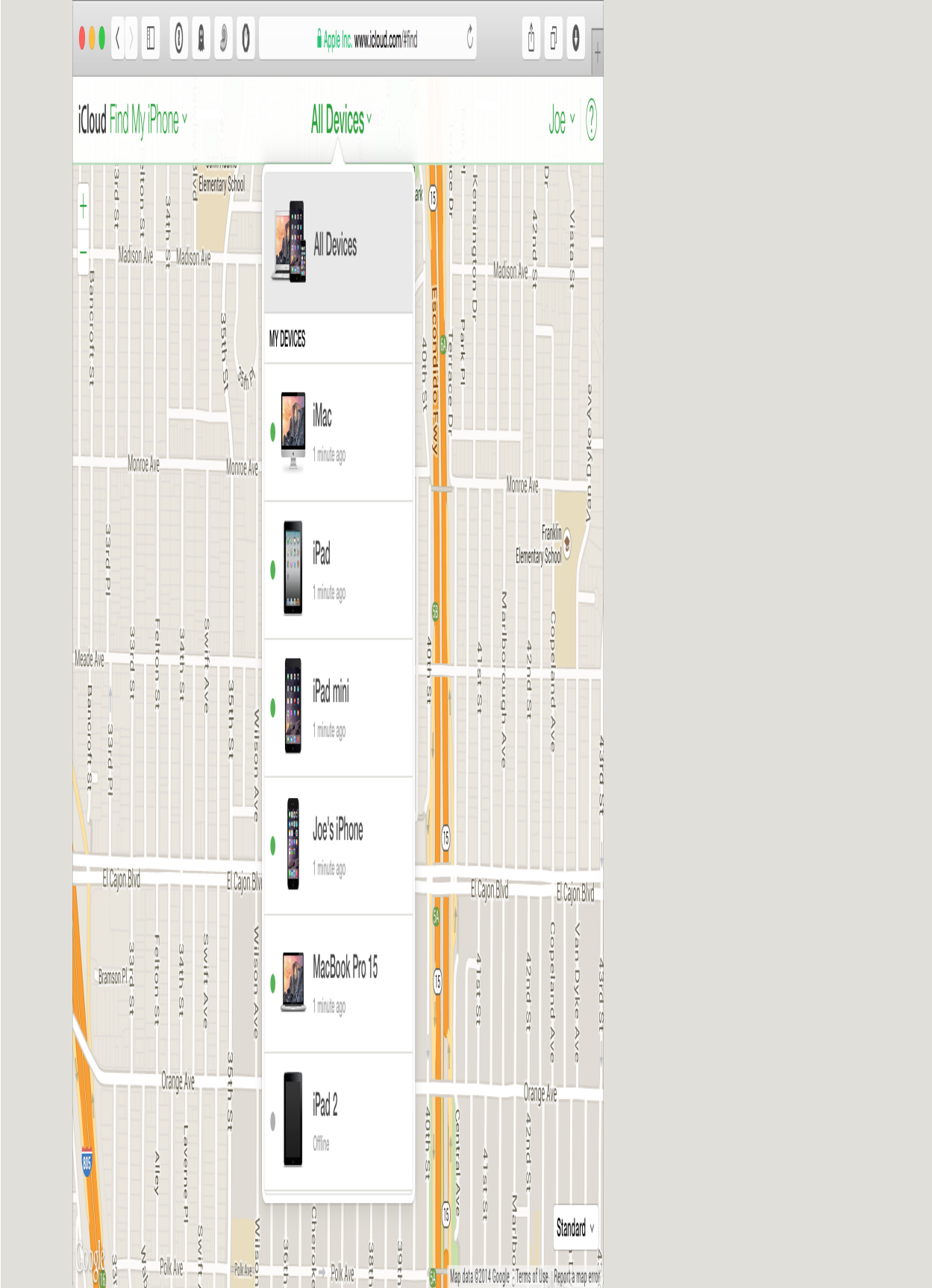


Figure 27: The Find My iPhone app on the iCloud website lists all your devices, and you can select a device to zoom in on its location on the map.

Select a device from the popover to view location data and a control panel (**Figure 28**) for just that device.

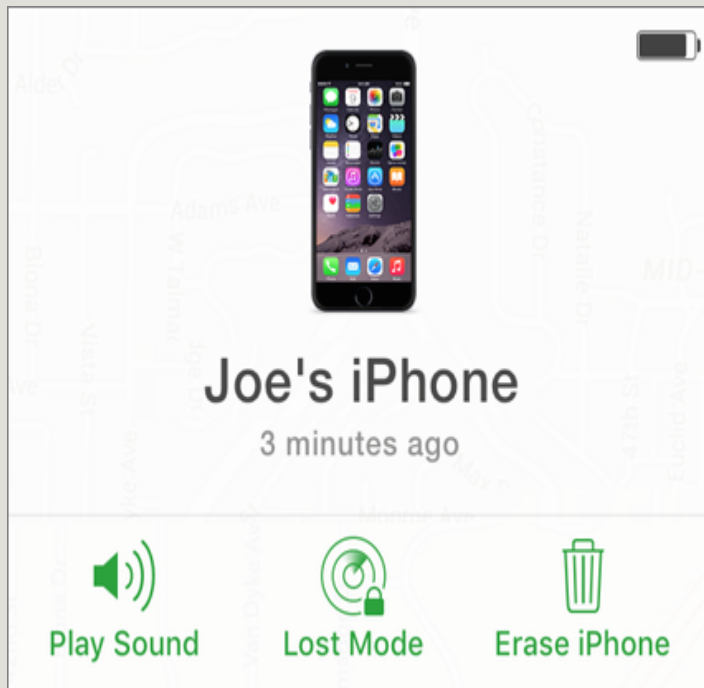



Figure 28: In this panel, you can determine which action Find My iPhone should take.

Assuming the selected device is on and online, the map shows its current location (if it's not on and online, but has been recently, the map should show the last known location, along with how recently its location was determined). The location becomes increasingly specific as Find My iPhone zeroes in on the device's location using a combination of cell tower triangulation, Wi-Fi network identification, and GPS, depending on which of these are available.

If your device is in motion, you may want to update the display from time to time. To ask a remote device to recalculate its location, first select it in the Devices list, and then click its Update  icon.

Note: If the device was most recently located more than an hour ago, you can select the Notify Me When Found checkbox; when the device next comes online, iCloud will alert you by email so you can return to Find My iPhone and take the next step. Or, if you no longer use the device, you can click Remove from Account to stop Find My *Device* from displaying it in the future.

Beyond merely locating the device, you can take any or all of several other steps depending on the device type. To do so, use the control panel shown previously in **Figure 28**:

- **Play Sound:** If the device is online, clicking this button will play a pinging sound at full volume. This can help you locate it if you misplaced it in your home or office. (The sounds plays even if the device is locked, has its ringer switch turned off, or is in Do Not Disturb mode.)

On the wayward device, you can turn off the sound and/or dismiss the message by unlocking the device (if necessary) and then tapping or clicking a button. If the sound has been played or the message sent, iCloud sends you an email message to confirm this.

Note: To turn off the sound on a pair of AirPods, click the Stop Playing button in the Find My iPhone web app. Notice that the buttons adjacent to the Stop Playing button allow you to mute just one AirPods, allowing you to better hear the other one.

- **Lost Mode:** Lost Mode is available for iOS devices and Apple Watches only; it lets you not only lock your device, but also put a telephone number and message on the screen to help a finder return it to you. If your device wasn't already locked with a passcode when you click Lost Mode, you'll be prompted to choose one. Then enter a telephone number; click Next, type a message, and click Done. The next time the device becomes available online, it will be locked and the message that you sent will appear on the screen. When this happens, you'll also get an email confirmation.
- **Lock:** Macs don't support Lost Mode, so instead you'll see Lock as the middle choice when a Mac is selected. Click this and click Lock again to confirm. Then enter and repeat a numeric passcode, enter an optional message, and click Lock. Your Mac will shut down and lock itself immediately so that no one else can use it or see its data. Only entering the code you chose will unlock it. Be

aware, however, that a locked Mac can't be erased remotely (per the next item).

- **Erase *Device*:** If your device has been stolen or is otherwise unrecoverable, you can tell iCloud to securely erase all its data—your email messages, address book, photos, apps, documents, and everything else—so that at least whoever has the device can't access your personal information.

To do this, click *Erase Device*, read the warning, and click *Erase*. If the device you're erasing is a Mac, you must also enter and confirm a numeric passcode that can be used to unlock the device (although not to recover the erased data) and enter a message that will be displayed on the screen if the Mac is ever found. The data is wiped immediately if the device is online, or as soon as it comes back online if not. (Erasing an iOS device or Apple Watch is immediate, whereas erasing a Mac can take as long as a day.)

Once you've done this with an iOS device or Apple Watch, the *Find My Device* features are no longer available (because the device no longer contains your iCloud data—it's essentially blank). Somewhat counterintuitively, if you wipe a Mac's data remotely, you may be able to locate it later with *Find My Device*. Some components used by *Find My Mac* are kept on the hidden recovery volume that the macOS installer creates—and that's not included in the data that's wiped.

Warning! According to Apple's online help, if you remotely erase a Mac that had an EFI firmware password set, you may not be able to unlock it yourself—even with the passcode—if and when you recover it. If you can't, you must take it to an Apple Store or authorized repair center to be unlocked.

FIND MY DEVICE AND THE SAVVY THIEF


Erasing a missing device's data can provide peace of mind, but it's easy for a savvy thief to block. All a thief would have to do is turn off Wi-Fi on a Mac or activate Airplane Mode on an iOS device (though if you've set a passcode, a thief would be slowed down or blocked).

Therefore, if you use this feature and don't already have a passcode set on iOS devices or have your Mac set up to require a password to start up and wake from sleep, you should do so quickly—before someone has a chance to block you. In addition, you should disable Control Center on the iOS lock screen (in Settings > Touch ID & Passcode), so the thief can't disable Wi-Fi or enable Airplane Mode without unlocking the device.

But remember: wiping the data from an iOS device prevents you from using Find My *Device*, so don't take this step if you think it's likely that the device is on a bus seat or is otherwise recoverable.

ALWAYS USE A PASSCODE OR PASSWORD

Because a passcode protects the data on an iOS device from prying eyes and buys you time to use Find My *Device*, it's a must for anyone concerned about security. I recommend not waiting until your device has gone missing; setting a passcode via Find My *Device* should be a last resort. To set a passcode, tap Settings > Touch ID & Passcode (or Face ID & Passcode; or, on devices with neither Touch ID nor Face ID, Settings> Passcode). If your device does not have Touch ID or Face ID enabled, you can set the amount of time before the device automatically locks, and the shorter that time is, the less chance someone will have to disable that passcode. (With Touch ID or Face ID enabled, the only option is "Immediately.")

Similarly, you can set your Mac to require a password after a period of inactivity. Go to System Preferences > Security & Privacy, click the lock  icon, and enter your credentials to unlock it. Click General, and if present, select the Require Password checkbox. Then choose a time (such as 5 Minutes) from the pop-up menu.

Find Your Device with an App

If you have access to an iOS device, you have another way to find a lost device and perform any or all of the activities described just previously (playing a sound, locking the device or activating Lost Mode, or erasing it). All you need is Apple's free [Find My iPhone](#) app, which, despite its name, lets you find any iCloud-enabled iOS device, Mac, Apple Watch, or AirPods. The app is built in to iOS 9 or later, or available as a free download from the App Store for older versions of iOS.

To use the app, tap the Find iPhone icon. If you are asked, enter the Apple ID and password associated with the device you want to find, and then tap Go.

Once you're signed in, the app offers approximately the same features as Find iPhone on the iCloud website. After selecting a device, tap Actions to display additional controls. You can also tap a device's icon on the map and then tap the car icon to get directions to the device from your current location.

If you're using the app on someone else's device, be sure to tap Sign Out before quitting so that your credentials aren't saved.

Find Your Device with Siri

If you're running Mojave or later, or iOS 12 or later, or a HomePod or an Apple TV with a Siri remote, you can activate Siri in any of the usual ways, and then say something like "Find my Mac" or "Where's my iPad?" and the device in question plays a sound. If you want to do anything more than play a sound, however, you'll have to use an app or the iCloud website.

Find Your Friends

Apple's free [Find My Friends](#) app lets you locate iOS devices belonging to anyone who's given you permission to know their whereabouts.

If someone gives you authorization, then you can find them (well, find their iOS device, assuming it's with them) whenever you want. Each person can revoke others' access at any time.

Note: The Find My Friends app no longer supports *temporary* authorization for other people to see your location, but Messages has a comparable capability. To change existing authorizations (and other Find My Friends settings) in iOS 12, open the Find My Friends app, tap Me, and then enable or disable Share My Location. In iOS 11, tap Settings > *Your Name* > iCloud > Share My Location.

You can locate your friends using the Find My Friends iOS app, [The Find Friends Web App](#) on the [iCloud website](#), or in your Notification Center Today view in macOS or iOS if you've added the Find My Friends widget. But, you'll probably use Find My Friends most often while you're on the go, so my directions here are for the iOS app. The iOS app is part of iOS 9 or later and can be downloaded for free from the App Store to older versions of iOS.

Tap the Find Friends icon on your iOS device, and if prompted to do so, enter your Apple ID and password and tap Sign In. (You won't be prompted to sign in again if your device is protected with a passcode.) Agree to the alert asking if the app can use your current location, and optionally to the alert asking if the app can send you push notifications—these alerts appear only the first time you use the app.

Tap Add to share your location with other people you specify. Tap a name to see that friend's location.

You can also set up location-based alerts in Find My Friends. For example, your friends can be alerted when you arrive at or leave a certain location, and you can get the same information about your friends and family members—with their consent, of course!

To send someone else a notification with your location, tap Me > Notify Friends, enter one or more email addresses, and then select Right Now, When I Leave, or When I Arrive; in the latter two cases, you'll have to choose a location and decide whether you want this to be a one-shot alert (the default) or a recurring alert that is sent whenever you leave or arrive. Then tap Done.

To receive a notification when a friend's location changes, tap a friend's name, tap Notify Me, tap Leaves or Arrives (and change the location to be monitored, if necessary), and tap Done.

For detailed instructions on using Find My Friends, tap Me, then Help. You may also find it useful to read Apple's [About Find My Friends](#).

Back Up and Restore iOS Data

iCloud can automatically back up most of the important data from your iOS device to Apple's servers. This feature is usually invisible once you've set it up, but there are a few options you may want to adjust, and, of course, you'll want to know how to [Restore an iOS Device from a Backup](#) should the need arise—a procedure that's not obvious!

Understand How iCloud Backup Works

Backups are as important on an iOS device as on your computer—after all, your iOS device stores lots of crucial personal data, not to mention photos and videos that may be irreplaceable. If it ever dies or needs replacing, backups can also save you time and aggravation.

But backing up an iOS device is a different sort of process from backing up a Mac or PC. Because iOS devices have no browsable file system (the Files app notwithstanding) and each app is *sandboxed*—prevented from interacting with other apps' data—conventional backup methods are out. One way to back up your iOS device is to connect it to your Mac or PC via Wi-Fi or with a USB cable, select the device in iTunes, and click Back Up Now.

But with iCloud, you can back up over Wi-Fi directly to Apple's servers. This means:

- You can back up your data while traveling or otherwise away from your computer—or even if you have no Mac or PC at all.
- You can restore an iOS device—for example, one whose data was corrupted, or that had its data wiped as part of

a repair—or set up a new device to use your existing data without a computer.

- As with iTunes backups, when you back up via iCloud, only the first backup copies *all* your personal data. Subsequent backups upload only information that's new or different since last time, making iCloud backups faster on subsequent backup runs (if not quite as fast as iTunes backups).

For all these reasons, I generally recommend using iCloud Backup. But, as I said in [About iCloud Storage](#), backups can consume lots of space. To solve this problem, you can buy more storage, limit which types of data are backed up (as I describe ahead), or delete old backups. But if you're short on space and unwilling to buy more, you might stick with iTunes-based backups.

Note: For the privacy implications of iCloud Backup, flip ahead to [Protect Your Privacy](#).

What does iCloud Backup back up, anyway? It covers the following:

- The photos and videos you've taken on your iOS device—located in Camera Roll unless you've enabled iCloud Photo Library, in which case they're in All Photos
- Photo albums you've created *on the iOS device* (but not those synced from your computer, because they're already “backed up” on that computer)
- Documents and settings for all your apps, including Health (on an iPhone)
- All account data and iOS settings (including those configured in the Settings app, HomeKit configuration, and your Home screen and folder organization)
- Conversations in the Messages app (iMessage, SMS, and MMS)—but only if you have not turned on Messages in the Cloud
- Your call history
- Ringtones
- Apple Watch backups
- Your purchase history from Apple
- Your Visual Voicemail password

Note: This list changes from time to time, and some items require further qualifications. For the latest details, see [What does iCloud back up?](#).

This list doesn't include anything that's already stored in the cloud thanks to some other aspect of iCloud—purchased music, TV shows, movies, apps, and books; plus your contacts, calendars, reminders, email, notes, bookmarks, and any documents handled by iCloud Drive.

Activate and Configure iCloud Backup

To set up iCloud Backup for your iOS device, follow these steps:

1. Turn on iCloud Backup in either of the following ways:
 1. In iTunes, select your iOS device. Click Summary, and then, in the Backups section, select iCloud and click Apply. (You can do this if the device is connected via USB or if you've enabled Wi-Fi Sync and the device is on the same network as your computer.)
 2. On your iOS device, tap Settings > *Your Name* > iCloud > iCloud Backup, and turn on iCloud Backup. Tap OK to confirm.
2. *Optional but recommended:* To immediately initiate your first backup manually, go to the Backup screen on your iOS device (as above) and tap Back Up Now.

Your initial backup may take several hours or more, but subsequent backups should be speedy. Backups occur automatically, once per day, when your iOS device is connected to power (whether an AC or DC adapter, a USB cable attached to a computer, or an external battery pack), has an active Wi-Fi connection, and is locked. In other words, other than backups you initiate by tapping Back Up Now, you'll never see a backup in progress. You can see when your last backup occurred at the bottom of the

Settings > *Your Name* > iCloud > iCloud Backup screen.

After your initial backup is complete, you can see how much space various types of data occupy, and you can selectively delete backups of individual data types:

1. Tap Settings > *Your Name* > iCloud. The screen (**Figure 29**, left) displays overall statistics for your iCloud account at the top.

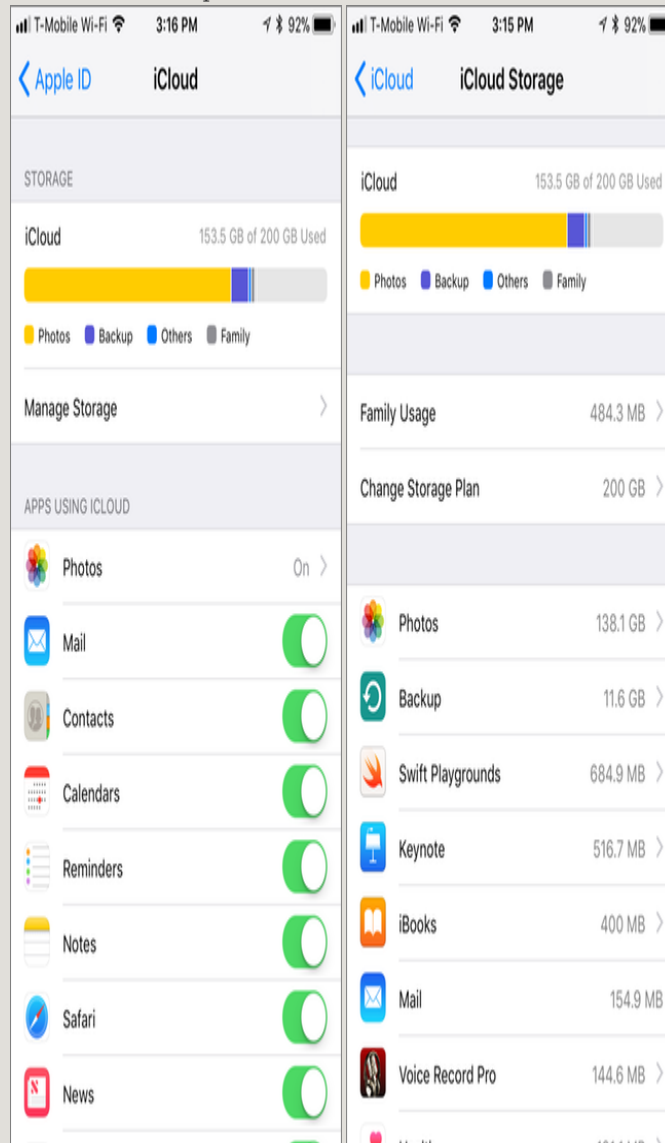


Figure 29: Left: The Storage section of the iCloud screen shows an overview of what is consuming space in your iCloud Drive account, including any iCloud backups. Right: From this screen, tap Backup to see and delete backups of particular kinds of data from this device.

2. Tap Manage Storage, and you'll see something like the screen at the right in **Figure 29**, above. The Backup category indicates the total size of backups for all your iOS devices. Tap Backup to see how this breaks down by device. Tap the name of the device you're holding to delete its entire backup or enable or disable backups of particular data types. To turn off future backups of a data type and delete existing backups of that data, turn the appropriate switch off and tap Delete to confirm.

Note: Although you can turn off backups of data for specific apps, you can't turn off backups of other device data without turning off iCloud Backup altogether.

Tip: You'll have more room for backups if you aren't using so much space in your iCloud storage allotment for other things. For help with handling your storage, read [Manage Your Storage](#), later.

Restore an iOS Device from a Backup

Let's say you've backed up your iOS device to iCloud. Now, you want to restore that backup to a new device—or your device is missing crucial data and you want to restore that data from a backup. What do you do?

If you need to restore your data to a new iOS device, you'll get a chance to select it while you set up the device. But restoring data to an existing device is not so obvious. Curiously, there's no Restore button anywhere in the Settings app, and no obvious way to get your data back! Furthermore, restoring is an all-or-nothing affair: you must restore *all* your data from a backup—you can't restore just your photos, or just data from a particular app.

To get your iOS device to a state where you can restore a backup, first, if possible, verify that you have a backup that you want to restore

from, as described earlier in this chapter. The Summary pane in iTunes lists your latest backups to both iCloud and “this computer” in the Backups section, and you can check on iCloud backups on the device by tapping Settings > *Your Name* > iCloud > Manage Storage > Backup.

Now that you’ve confirmed that you have a backup to restore from, tap Settings > General > Reset > Erase All Content and Settings, enter your passcode if prompted, and then tap Erase *Device* (twice) to confirm. (If Find My *Device* was active, you may also be prompted for your iCloud password.)

This resets your iOS device to “factory fresh” status. When you next turn it on—or if you’re setting up a new device—you’ll go through these steps:

1. Follow the prompts to answer a few questions, such as your default language, country, and Wi-Fi network (entering its password, if necessary), and Location Services preference.
2. Tap Restore from iCloud Backup.
3. Enter your Apple ID and password.
4. Tap the backup you want to restore (likely your most recent one), and tap Restore.

iCloud backups tend to be quite slow to restore (typically, much slower than restoring iTunes backups), so be prepared for a bit of a wait. After the backup has been downloaded, your device restarts and applies the backup. You’ll be able to use the device at this point, but re-downloading all your other data, such as apps, music, and photos, may take much longer.

Use iCloud on an Apple TV

The Apple TV is a small set-top box that gives you access to streaming media from Apple and other providers, as well as media stored on other Apple devices on your network. Although the third-generation Apple TV supports several iCloud features, this chapter covers the current (4K and fourth-generation) models only.

Set Up iCloud on an Apple TV

There are two main places to set iCloud-related preferences on your Apple TV. Depending on the choices you made when you set up the Apple TV, either or both of these may already be configured, but it doesn't hurt to check.

SET UP ICLOUD ACCOUNT FEATURES

To configure an Apple TV to work with iCloud Photos, iMovie Theater, Family Sharing, and the AirPods paired with your iPhone (if you have them), navigate to Settings > Accounts > iCloud. If your Apple ID isn't already listed, select Sign In. If you've already entered your Apple ID for the iTunes Store, you may be asked if you want to use that same Apple ID for these other features. If you do, select Yes (and enter your password); if not, select No, Use a Different Apple ID (and enter both the Apple ID and password for a different iCloud account).

On the iCloud screen, you can turn any of the following on or off:

- One Home Screen (when enabled, your Home screen will be the same on every Apple TV signed in to your iCloud account)

- iCloud Photo Library (but turning on iCloud Photo Library removes My Photo Stream as an option; you can enable either one but not both at the same time)
- Shared Albums (previously called iCloud Photo Sharing)
- My Photo Stream

After that one-time setup procedure, to view your photos, follow the steps ahead in [Use iCloud Photos on an Apple TV](#); and to view your movies, follow the directions in [Use iMovie Theater](#).

SET UP ITUNES STORE AND ITUNES MATCH

To set up your Apple TV to use iCloud for streaming purchased media, navigate to Settings > Accounts > iTunes and App Store. If your Apple ID isn't already listed, select Sign In and enter your credentials. Then select Yes, if prompted, to remember your password for rentals and purchases. (You may want to avoid doing so if your Apple TV is accessible by kids or guests who might rent or buy things on your account without your permission.)

You may enter more than one Apple ID (for example, if multiple people in your household have purchased content from the iTunes Store that you want to view), and switch between them easily. To enter an additional account, once again go to Settings > Accounts > iTunes and App Store, select Add New Apple ID, and enter that account's credentials. (To switch between accounts, return to the iTunes and App Store screen and select a different account under Switch Apple ID.) If you have enabled iCloud Family Sharing, you can also use this screen to select the family member whose Apple ID will be used for purchases.

If you subscribe to iTunes Match, it's automatically enabled when you add your iCloud

account, though you will need to turn on iCloud Music Library in the Music app the first time you use it.

View Shared Purchases on an Apple TV

If you've enabled iCloud Family Sharing, you can't access other family members' music on an Apple TV, but you can view movies and TV shows purchased by other family members. Go to Movies > Purchased > Family Sharing or TV Shows > Purchased > Family Sharing. Then select a family member to see that person's purchased content.

Use iTunes Match on an Apple TV

If you've set up iTunes Match on your Apple TV, then to listen to matched or uploaded tracks from your iTunes library, navigate to the Music app. You'll be prompted to turn on iCloud Music Library the first time you use this feature, but thereafter, you don't need any extra steps. You can then navigate through your entire iTunes music library, including your playlists.

Use iCloud Photos on an Apple TV

After setting up iCloud Photos in the Settings app, you can select Photos on the home screen to display your photos and videos, shared albums, or personal albums. If you enabled iCloud Photo Library, you can also see Memories (automatically generated collections of photos and videos based on time, location, or faces); or, if you enabled My Photo Stream, you can see it [here](#).

Use AirPlay from iCloud

If you have an iOS device, you probably already know you can use AirPlay to send audio and video from it to your Apple TV—essentially turning your TV into a much bigger display for your iOS device. AirPlay from iCloud alters the

standard AirPlay behavior in a subtle way: after you initiate playback in iOS, your Apple TV streams the media directly from the iCloud servers instead of from your iOS device. (This assumes, of course, that the media is stored on the iCloud servers, which is true for content purchased from Apple and for iTunes Match.)

One benefit of this approach is that you preserve your iOS device's battery charge, since the device doesn't have to stream and transmit the media. Another is that you can use someone else's Apple TV (that is, one that's not signed in to your iCloud account) to display purchased content from *your* iCloud account, simply by virtue of your iOS device being within range. For example, if you have a season pass to a TV show I want to see, I can invite you to my house and feed you popcorn in exchange for using your iOS device to play shows on my TV—without any changes in settings for either of us.

To enable AirPlay from iCloud, on the Apple TV, go to Settings > AirPlay and make sure Play Purchases from iCloud is set to On.

After you do that, whenever an iOS device sends content to your Apple TV, the Apple TV attempts to stream it from iCloud; if it can't for any reason, it falls back to streaming from the iOS device.


Use iMovie Theater


iMovie Theater lets you send movies you create in iMovie (on a Mac or in iOS) to iCloud, and from there, stream them to your other devices—in this case, an Apple TV.

Tip: You can also view iMovie Theater movies on an iOS device or on another Mac. See [iMovie \(2013\): Share to “iMovie” Theater](#).

To set up iMovie Theater on your Mac:

1. Go to System Preferences > iCloud and make sure iCloud Drive is enabled.
2. Click the Options button next to iCloud Drive and—if iMovie is in the list—make sure it's selected. (If iMovie isn't in the list, we'll add it in the next step.) Click Done.
3. Open iMovie 10 or later, choose iMovie > Preferences, and make sure Automatically Upload Content to iCloud is selected.

Then, to send a movie from iMovie to iCloud, select it, click the Share  icon, and then click Theater.

On an iOS device, no setup is required besides turning on iCloud Drive in Settings > iCloud. To send a movie from iMovie to iCloud, tap the Share  icon followed by iMovie Theater.

Finally, to view iMovie Theater movies on your Apple TV, select the iMovie Theater option (an optional app) followed by the movie of your choice.

To learn more about iMovie Theater, see these Apple support articles:

- [iMovie for Mac: What is iMovie Theater?](#)
- [iMovie \(2013\): Set Up “iMovie” Theater and iCloud](#)

Note: For quite a bit more about the Apple TV, read [Take Control of Apple TV](#), by Josh Centers.

Use Back to My Mac

Back to My Mac (BtMM), an iCloud feature exclusively for Mac users, lets you easily connect to one of your Macs—or an AirPort Time Capsule or AirPort Disk—from another Mac located elsewhere on the internet in ways that would otherwise be very difficult to set up.

Note: While Back to My Mac has been around for many years, and still works on Macs running 10.13 High Sierra or earlier, *it is no longer available in 10.14 Mojave or later*. This chapter is here strictly for the benefit of people running older versions of macOS. If you're running Mojave, move along—there's nothing to see here!

Once BtMM is active, using it is every bit as simple as (in fact, it's exactly the same as) connecting between two Macs on the same local network in your home or office—generally just a bit slower.

When I say “connect,” I’m talking about three separate options:

- **File sharing:** You can mount a remote Mac's drive on your local Mac and then copy files between them, delete or rename remote files, or do anything else you normally could do with a network file server. The same goes for an AirPort Time Capsule or an AirPort Disk.

This is entirely different from using cloud-based storage such as Dropbox or iCloud Drive; Back to My Mac uses iCloud only as a means of locating and connecting to the remote device. Once the connection is made, you can transfer files directly between the local Mac and remote device in either direction. Of course, the remote device must be on and connected to the internet.

- **Screen sharing:** You can see a live view of a remote Mac's screen on your local Mac, and control the remote

Mac with your local keyboard and mouse, as though you were sitting at the remote computer. In this way, for instance, you can run applications on your home Mac that you don't have with you on your laptop.

- **Configuration:** You can change the settings of an AirPort base station or AirPort Time Capsule in a remote location using AirPort Utility on the Mac.

As cool as Back to My Mac is, it involves considerable behind-the-scenes complexity, and because some of the many variables required for success may be beyond your (or Apple's) ability to address, you may not be able to get it working in every situation.

On a Mac, activating BtMM is a simple matter of making sure the Back to My Mac switch is on in System Preferences > iCloud. (You must also have File Sharing, Screen Sharing, or both enabled in System Preferences > Sharing; if you don't, clicking a Details button next to the Back to My Mac switch prompts you to turn them on.) But if you see an error message there, you're unable to connect to your Mac remotely, or you want to set up an AirPort Time Capsule or AirPort Disk to use BtMM, you may need additional help. Fortunately, Apple has a couple of useful support articles:

- [Set up and use Back to My Mac](#)
- [If multiple-NAT configurations cause issues with Back to My Mac](#)

Once everything's set up, go on a field trip. Take your laptop somewhere else. Make sure you're connected to the internet. If you look in the sidebar of a Finder window, you should see the icon for your remote Mac, AirPort Time Capsule, or AirPort Disk under Shared, just as you would if it were on the same local network. You can now connect to it as follows:

- **Share another Mac's screen:** To control your remote Mac's screen, select its icon in the sidebar, click Share

Screen, and enter your Mac account's login credentials if prompted to do so.

- **Access remote files:** To access files on a remote Mac, AirPort Time Capsule, or AirPort Disk, select its icon in the Finder window sidebar, click Connect As, and enter your credentials if prompted. A list of *shares*—volumes and shared folders—on your remote device appears. Double-click any share to mount it and display its files.
- **Configure a remote base station:** Should the need arise, you can also *configure* your AirPort Time Capsule or AirPort Extreme base station remotely using Back to My Mac, assuming you've previously enabled Back to My Mac on the device. Simply open AirPort Utility and your remote device should appear, along with any compatible devices found nearby.

Manage Your Account

Your iCloud account has a handful of settings you may want to adjust, including your photo, default language, and time zone. And, if you've inadvertently deleted something from Contacts, Calendars, Reminders, or iCloud Drive within the last 30 days, you can restore it using the Settings app on the iCloud website; see [Restore Deleted Data](#). You can also use account-level controls to [Upgrade Your Storage](#).


Change iCloud Website Settings

A few settings related to your use of the iCloud website as a whole—your photo, language, and time zone—are all set in the same place. To adjust them, log in to the [iCloud website](#) and either click the Settings icon on the home screen or click your name at the top and choose iCloud Settings from the menu. You can then change settings in any of several categories. Any changes you make take effect immediately.

CHANGE PERSONAL INFORMATION

The top portion of the window, which is unlabeled, lets you adjust certain pieces of personal information:

- **Picture:** Your iCloud account can have a photo or other picture associated with it, which other iCloud members will see in certain contexts (such as in email messages). You can do the following:
 - *Add a picture.* If you don't already have a picture assigned to your account, click Add Photo and then either drag in a picture or click Choose Photo, select a photo on your disk, and click Choose. Drag the slider to adjust the zoom level; drag the photo around to reposition it, if desired; and then click Done.

- *Change your picture.* Hover over it with your pointer, click Edit at the bottom of the picture region, and then follow the procedure in the previous bullet point.
- *Delete your picture.* Hover over it and click the Delete  icon.

- **Manage your Apple ID:** To make changes to your Apple ID settings (such as choosing a new password or changing the security settings), click the Manage link under Apple ID.
- **Language:** To change the language of the iCloud website user interface, choose a language from the Language pop-up menu.
- **Time Zone/Region:** To change your time zone (as shown in the Calendar web app) or region, click the current zone name under Time Zone to display a map. Click an area on the map to set your time zone. Then, if the city name shown at the bottom isn't correct, click the city name and choose another city from the pop-up menu.


To change your Region setting (which affects iWork apps, iCloud Drive, Photos, and Notes), choose a country or other location from the Formats pop-up menu. Optionally choose a language from the second pop-up menu (this language determines the formats used for time, date, and money in some iCloud apps); or, select “Make formats match language” to use the formats associated with the language you selected on the main Settings page.

Click Done to dismiss the Time Zone & Formats dialog.

VIEW STORAGE DETAILS

A multicolored graph under the Storage heading shows how your iCloud storage is being used. Hover over a colored slice to see a popover with details. Apple provides more information when you view your storage details from a desktop computer or iOS device, and I talk about that in [Manage Your Storage](#), later in this chapter.

VIEW OR REMOVE DEVICES

Look under My Devices to see all your Macs (running Yosemite or later), iOS devices (running iOS 8 or later), Apple Watches, and Apple TVs. Click a device to see the last several characters of its serial number (and, for iPhones, cellular iPads, and cellular Apple Watches, its IMEI). Then, if you no longer have or use a device, you can remove it from your iCloud account by clicking the X  icon next to its name and then clicking Remove to confirm your choice.

VIEW FAMILY SHARING MEMBERS

If you have Family Sharing enabled, look in the Family Sharing section to see your family members. You can't change them here, however—that has to happen in System Preferences > iCloud on a Mac or in Settings > *Your Name* > iCloud on an iOS device.

RESTORE DELETED DATA

If you delete data from Contacts, Calendars, Reminders, or if you delete a browser bookmark or a file from iCloud Drive, iCloud maintains a copy of that data for 30 days. To recover your data, start with one of the links under Advanced—Restore Files, Restore Contacts, Restore Calendars and Reminders, or Restore Bookmarks. Then:

- **For files:** Select the checkbox next to each file you want to restore (or Select All to select everything). Then click Restore.
- **For other data:** Unfortunately, you can't restore an individual contact, event, reminder, or bookmark—or even an individual calendar or reminder list. You can only restore your Contacts data as a whole, your combined Calendar and Reminders data as a whole, or your bookmark data as a whole, to one of its previously archived states. To do so, locate the item you want to restore and click the Restore link to its right.

The selected item(s) will be restored to all your devices where that data type is enabled. For

contacts, calendars, reminders, and bookmarks, iCloud archives your current data (as it exists before restoration) so you can return to your current state later if need be.

SIGN OUT OF ALL BROWSERS

If you think you may still be signed in to iCloud on another browser and you want to be sure all browser sessions (including the current one) are closed, click Sign Out of All Browsers under the Advanced heading.

MANAGE APPS THAT CAN LOOK YOU UP

As you can do in System Preferences > iCloud after clicking Options next to iCloud Drive, you can use the Settings web app to choose which apps let other people find you by your email address for the purpose of sharing documents (although I have not yet encountered any apps that support this feature). To do so, click Manage Apps That Can Look You Up under the Advanced heading.

Change Payment Settings

If you subscribe to either of iCloud's optional paid add-ons (iTunes Match and additional storage), you may need to change your billing address and credit card information at some point.

Change payment settings on a Mac or PC:

1. Go to System Preferences > iCloud > Account Details > Payment.
2. Click the Details button next to your credit card.
3. Edit the information as needed, then click Save.
4. Click Done, then close System Preferences.

Change payment settings on an iOS device:

1. Tap Settings > *Your Name* > Payment & Shipping.
2. Tap the credit card name.

3. Make any desired alterations. (Make sure you include your credit card's security code.) Then tap Save.

Manage Your Storage

iCloud includes 5 GB of storage on Apple's servers for your email, app data, photos and videos, settings, and backups. That may be plenty for you, but as I explained in [About iCloud Storage](#), that space can quickly fill up, especially if you have more than one iOS device. Fortunately, iCloud lets you check your current usage, delete certain data from the cloud, and turn off backups of individual data types.

CHECK AND MODIFY STORAGE USAGE

You can see how much storage you're currently using—and delete specific items from the cloud if necessary—on a Mac, PC, or iOS device.

Check and modify storage usage on a Mac or PC:

1. (Mac) Go to System Preferences > iCloud. (PC) Open the iCloud app.
2. To see details of storage, click Manage (at the bottom of the pane, next to the iCloud Storage indicator).

In the dialog that appears (**Figure 30**), each category listed on the left shows how much data it's storing online; to see how that data breaks down, select the category. The Backups category shows backups for each of your iOS devices, while an app that uses iCloud Drive, such as Keynote, displays the total amount of cloud storage that it uses.

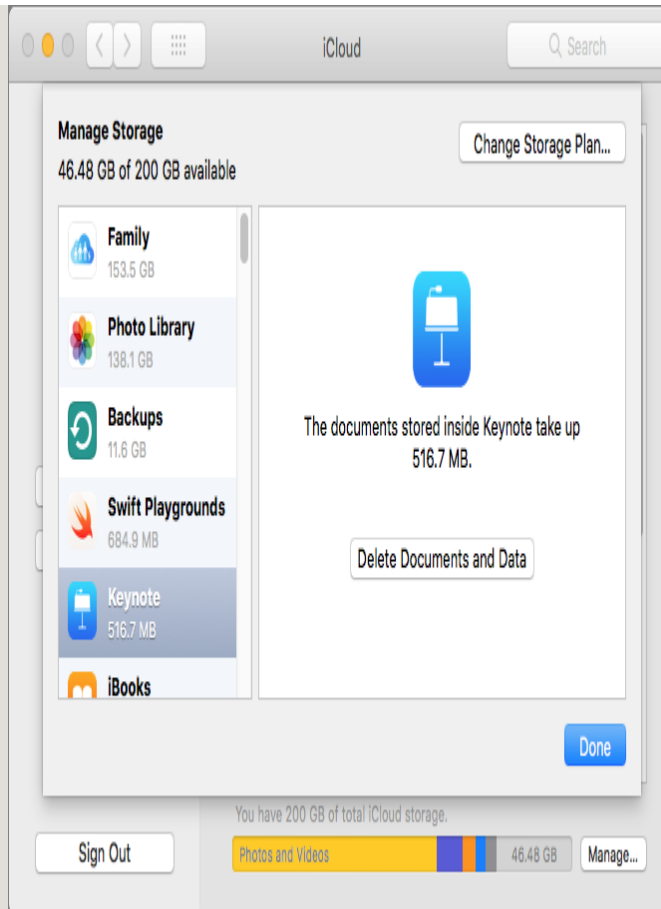


Figure 30: This dialog shows all the types of data you’re storing and lets you delete specific items.

3. To delete any item (such as the backups of a particular iOS device), select it and click the Delete button; or, to delete all the data stored in the cloud for a particular app, select it and click Delete Documents & Data. Read and understand the warning that the data will be immediately deleted from *all* your devices (including this one), and click Delete to confirm.

When you delete items here, iCloud deletes them from the cloud—which means they become unavailable on all your devices.

Check and modify storage usage on an iOS device:

1. Tap Settings > Your Name > iCloud.
2. To stop any app on this device from using iCloud for storage, turn off the switch next to that app.
3. To delete data already stored in iCloud for an app, tap Manage Storage followed by the app’s name. Then either tap the Delete button (the wording may vary—for example, “Delete Documents & Data,” “Turn Off and

Delete,” or “Disable & Delete”) to delete *all* the data from that app, or for apps where the Manage Storage screen is listing individual items, swipe left on an item and tap Delete to remove just that one item.

Note: To read about deleting existing backups and turning off backups of certain data types, see [Activate and Configure iCloud Backup](#).

UPGRADE YOUR STORAGE

If your default 5 GB of storage turns out to be too little, you can upgrade it for a modest monthly fee. I recommend upgrading your storage *before* you fill your existing plan so you don’t get stuck with data that has nowhere to go.

Apple offers three levels of paid storage, which bring your *total* storage to the following levels:

- 50 GB: \$0.99 per month
- 200 GB: \$2.99 per month
- 2 TB: \$9.99 per month

If you select the 200 GB level or above, you can share that storage with other family members; see [Share Storage Space](#).

Buy more storage on a Mac or PC:

1. (Mac) Go to System Preferences > iCloud. (PC) Open the iCloud app.
2. At the bottom of the window, next to the iCloud Storage indicator, click the Manage button (Mac) or Storage (PC).
3. Click Change Storage Plan (if you’re already paying for extra storage and want more) or Buy More Storage (if you’re not yet paying for extra).
4. Click the plan you want to purchase, and click Next.
5. Enter your password when prompted, and click Buy.

Apple upgrades your account to the selected level of storage. Your subscription will

automatically be renewed each month unless you cancel your subscription to the additional storage before the renewal date. (To cancel, go to System Preferences > iCloud on a Mac or the iCloud app in Windows. Click Manage, followed by Change Storage Plan, followed by Downgrade Options. Select a new plan, such as the free 5 GB plan, and click Done.)

Buy more storage on an iOS device:

1. Tap Settings > *Your Name* > iCloud > Manage Storage.
2. Tap Change Storage Plan (if you're already paying for extra storage and want more) or Buy More Storage (if you're not yet paying for extra).
3. Tap the plan you want under Choose Upgrade, and tap Buy.
4. Confirm your purchase when prompted.

Apple upgrades your account to the selected level of storage. Your subscription to additional storage will be renewed automatically each month unless you cancel it before the renewal date.

Manage iCloud Security and Privacy

Throughout this book I've mentioned security and privacy issues connected to iCloud. But because of recent high-profile incidents involving data theft from iCloud users, I want to end the book with some advice about protecting your data.

In the digital world, the words security and privacy are often used interchangeably, but even though they're related, they're not the same. *Security* is freedom from danger or harm, whereas *privacy* is freedom from observation or attention. Someone can harm you by impersonating you, taking over your account, stealing or deleting data, and so on; security makes such harm less likely to occur. On the other hand, if someone reads your email messages, sees your photos, or learns your location without your permission, you've lost your privacy.

It's possible to have security without privacy and vice versa. But when it comes to a service like iCloud, it turns out that all the steps you might take to improve your security also protect your privacy. For example, choosing an excellent password reduces the likelihood that a stranger might log in to your account and thereby obtain access to your private data.

Start by enhancing your security with a good password and two-factor authentication, discussed just ahead. Before buying a used iOS device, you should also [Check Activation Lock](#) to decrease the risk of using a stolen device. And

you can take additional steps to [Protect Your Privacy](#), such as turning off syncing for sensitive data and using a passcode on your iOS devices.

Choose a Good Password

The password associated with the Apple ID you use for iCloud is incredibly valuable. With your username and that password, someone can see all your email, contacts, calendar events, backed up photos, and even your current location. And, as I mentioned in [Does Find My Device Increase Hacking Risks?](#), using Find My *Device*, anyone with your password can remotely lock or wipe your Macs and iOS devices!

So, choosing a good password is a big deal. You don't want a password that any other person can guess, or that an automated cracking tool could uncover by brute force. For complete details on what makes one password stronger than another, how an attacker might go about guessing your password, and techniques for increasing password strength while not overtaxing your memory, read my book [Take Control of Your Passwords](#). If you don't have time to read that whole book, at least follow these tips:

- **Make your iCloud password unique.** Don't use your iCloud password for any other site or service, because if your password for one site is compromised, every account that uses the same password is at risk.
- **Choose a long, random password.** Your iCloud password should be *at least* 12 characters long. It should include uppercase and lowercase letters, at least one digit, and at least one punctuation character. And it should be *random*—any sort of pattern weakens your password. (If you don't already have a random password generator, a quick web search should turn up many options.)
- **Use a password manager.** Apps such as [1Password](#), [Dashlane](#), and [LastPass](#) can create random passwords for you, store them, sync them across your devices, and fill them in automatically. That takes most of the effort and pain out of using good passwords.

If you want to change your password now, go to appleid.apple.com, click Manage Your Apple ID, and follow the instructions.

Use Enhanced Security Features

Even the longest, strongest, most random password provides no security if someone else finds out what it is. Perhaps someone watches over your shoulder as you type your password at your local coffee shop. Or maybe a spam email message persuades you to enter your password on a phishing site that looks almost exactly like the Apple site. Or an as-yet-undiscovered security bug or exploit exposes your password to an attacker.

In fact, it gets worse—an attacker may not need your password at all! When you set up your Apple ID, you were likely prompted to choose a few security questions and enter their answers. These questions (like “What was the name of your first pet?” or “What is the name of your oldest niece?”) are supposed to be easy for you to remember but hard for an attacker to guess—so that if you forget your password, Apple can ask you these questions as a secondary means of verifying your identity. Answer correctly, and you can reset your password.

Trouble is, someone *pretending* to be you can claim to have forgotten your password—and if that person calls Apple and correctly answers your security questions, your account will be compromised. And (assuming you answer the security questions truthfully) it’s surprisingly easy for a skilled attacker to find or guess the answers.

Apple, like many other companies (including Dropbox, Facebook, and Google) offers an optional method to bolster your security by adding another authentication element—a

dynamic code tied to a device you own. The idea is that you'll need both your password and this special code to perform certain critical activities with your Apple ID, so that even if someone knew your password, that alone wouldn't grant access.

Apple offers not one, but two versions of this enhanced security:

- **Two-factor authentication:** The modern version of the process, *two-factor authentication*, prompts you to allow login attempts and then requires you to enter a code; any trusted Apple device can display both the prompt and the code. Two-factor authentication requires 10.11 El Capitan or later, iOS 9 or later, or watchOS 2 or later—and is the *only* method available on 10.13 High Sierra or later and iOS 11 or later. See [Use Two-Factor Authentication](#), just ahead.
- **Two-step verification:** Apple's earlier implementation of this system, called *two-step verification*, supplies the secondary login code via the Find My iPhone app or SMS. It's available only for those using 10.12 Sierra or earlier, or iOS 10 or earlier. See [Use Two-Step Verification](#), later.

Tip: You can use one of these systems or the other (or neither)—but not both, even if your operating system supports either version. If all your devices are running El Capitan or later, or iOS 9 or later, two-factor authentication is definitely the better choice. And, if you want to use Auto Unlock with your Apple Watch in Sierra or later, you'll need to enable two-factor authentication first.

Two-factor authentication and two-step verification are optional, but apart from the enhanced security they offer, there are additional reasons to consider using one of them:

- Setting up either two-step verification or two-factor authentication system eliminates the security questions from your Apple ID—an attacker can no longer use them to break in to your account. So that's a lovely bonus.

- You'll need to have one of these systems activated in order to [Use App-Specific Passwords](#), and as of mid-2017, Apple *requires* app-specific passwords for third-party apps (such as Outlook and BusyCal) that connect to your iCloud account.

USE TWO-FACTOR AUTHENTICATION

Two-factor authentication for your Apple ID is both simpler and more secure than the older two-step verification I describe later. It's available to all iCloud subscribers who have at least one device running iOS 9 or later or 10.11 El Capitan or later (although you'll have better results if *all* your devices are running compatible operating systems).

With this feature enabled, here's what you'll see:

- The device you use initially to enable two-factor authentication becomes a *trusted device*. That means you'll use this device (along with your password) to authenticate on your next device, which then also becomes trusted. You can have several trusted devices.
- When you sign in on a device that isn't yet trusted, you enter your username and password as usual, but then two things happen:
 - You must click or tap an Allow button that appears automatically on all your existing trusted devices and shows the area from which the new device is trying to sign in. (Once you click or tap it on one device, the alert disappears on the rest.)
 - On the new device, you must enter a 6-digit verification code that's displayed automatically on all your existing trusted devices. (If you don't have access to a trusted device, you can receive your verification code via SMS or a phone call instead.)
- Apps that access your iCloud account must [Use App-Specific Passwords](#), just as with two-step verification.
- If you try to sign in to your iCloud account using an older device that isn't running at least iOS 9 or 10.11 El Capitan, or an older Apple TV model, you must get a verification code from a trusted device (or via SMS or phone call) and then *append* that to your password when you enter it. For example, if your ordinary iCloud

password is x?u3[iFirHKL6XTG and your verification code is 295634, you would enter x?u3[iFirHKL6XTG295634 as your password.

In practice, I find Apple's two-factor authentication to be smoother and less cumbersome to use than two-step verification, but the setup process is not necessarily intuitive—and it's especially weird for people already using the older system and switching manually, because if you had previously turned on two-step verification, you must first turn it off and jump through the additional hoop of setting up security questions (which will become irrelevant a few minutes later, once you turn on two-factor authentication).

Note: Users who previously had two-step verification enabled are switched automatically to two-factor authentication when they log in to iCloud the first time in High Sierra or later, or iOS 11 or later. That means the process for such users is simpler than what I describe below, and Apple's prompts walk you through it. After this automatic switchover, you can optionally use the steps in this [Apple article](#) to set up a recovery key.

To turn off two-step verification, if it was previously enabled:

1. Go to appleid.apple.com in a browser, sign in, and in the Security section (where it should say "Two-Step Verification On"), click Edit.
2. Click Turn Off Two-Step Verification and follow the prompts; note that you must select and answer three new security questions (all of which must have different answers) and supply your date of birth.

To enable two-factor authentication, which works on a Mac running El Capitan or later or an iOS device running iOS 9 or later:

1. On a Mac, go to System Preferences > iCloud > Account Details. Click Security, enter your password, and click Continue. (In some cases, you may have to repeat some or all of this process twice.) Then click Set Up Two-Factor Authentication.

Or, on an iOS device, go to Settings > *Your Name* > Password & Security. Then tap Set Up Two-Factor Authentication.

2. Follow the prompts. These may include answering two of your three security questions and supplying your date of birth and a phone number; you can select either “Text message” (for SMS) or “Phone call” (for a voice call).

Once you complete these steps, two-factor authentication is on, which means that you may be prompted for your password and verification code (or, in some cases, an app-specific password) on devices already signed in to your iCloud account.

Note: Be sure to check that your various third-party Apple ID-enabled apps are now working properly, since they may not prompt you to immediately set up app-specific passwords. See [Use App-Specific Passwords](#), ahead.

When you sign in on a new device (or in a browser—for example, if you later visit appleid.apple.com again), the process is as follows:

1. Enter your Apple ID and password as usual when prompted.
2. An alert (**Figure 31**) appears on every already-trusted device. If the presence and location of the sign-in attempt (which is based on the device’s IP address) is what you were expecting, click or tap Allow.



Your Apple ID is being used to sign in to a new device

Your Apple ID is being used to sign in to an iMac near San Diego, CA.



Don't Allow

Allow

Figure 31: If the area shown on this Mac corresponds to the location where your new device is trying to sign in, click Allow.

A 6-digit verification code (**Figure 32**) appears on the device on which you clicked or tapped Allow.

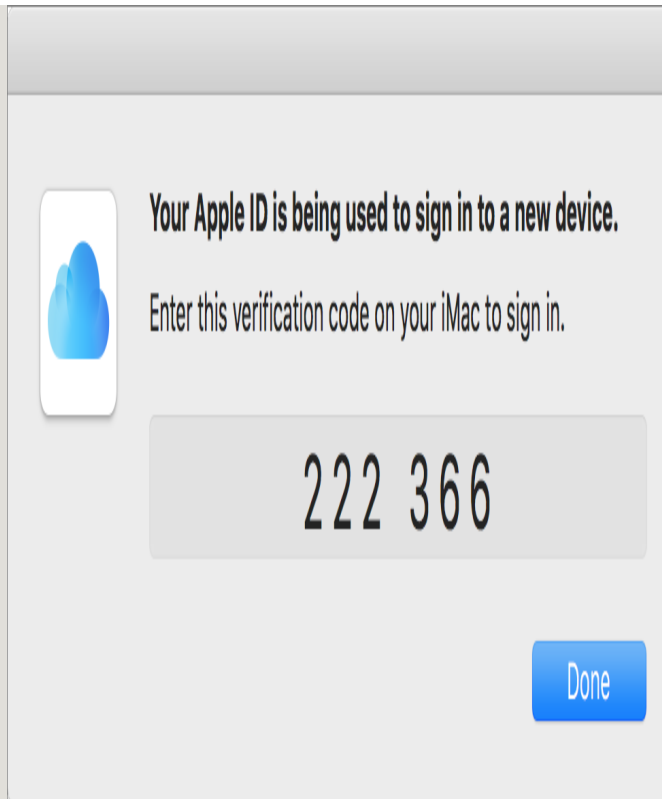


Figure 32: After you click or tap Allow, you see the verification code that you can enter on the device on which you're signing in.

3. On the device you're using to sign in, enter the code (Figure 33).

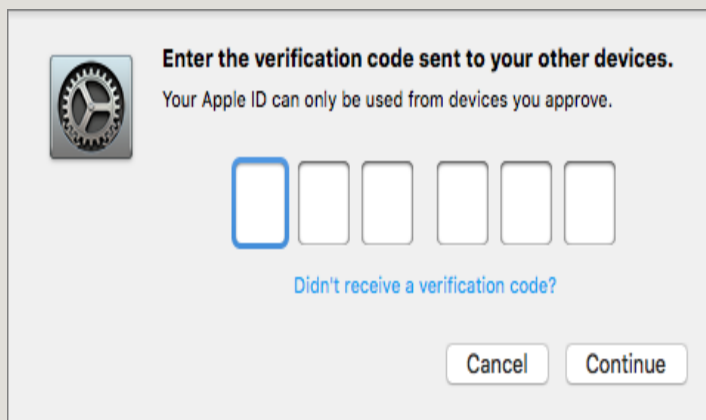


Figure 33: Enter the code from one of your other devices here. In most cases, you won't even need to click Continue.

After you complete this step, your new device becomes trusted and is signed in to your iCloud account.

To learn more about Apple's two-factor authentication system, read:

- Apple's support articles [Two-factor authentication for Apple ID](#) and [Availability of two-factor authentication for Apple ID](#)
- *Take Control of Your Apple ID*, by Glenn Fleishman, which contains detailed, practical steps for setting up and using this feature, along with a look at what to do if you lose a device or forget your password

USE TWO-STEP VERIFICATION

Two-step verification—intended for devices running operating systems older than iOS 9 or 10.11 El Capitan—works like this: After you enable it, when you try to perform certain tasks (such as logging in to the [iCloud website](#), changing your password, or making a purchase on a new device), you enter your username and password. Then you're prompted to supply a numeric code that's sent to an iOS device or via SMS to an ordinary cell phone. Only after you enter this code are you granted access.

You won't have to go through these steps very often. Just ahead, in [Sign In with Two-Step Verification](#), I list the situations that call for the extra verification step.

Set Up Two-Step Verification

In order to use two-step verification, you must have at least one device capable of receiving SMS messages. With the necessary device(s) in hand, do this:

1. In your browser, go to appleid.apple.com.
2. Sign in with the username and password you normally use for iCloud.
3. In the Security section, under Two-Step Verification, click Get Started and follow the prompts. In the process, you'll receive a 14-character Recovery Key. Be sure to keep this in a safe place, such as your password manager.
4. While you're signed in to appleid.apple.com, you can authorize additional devices to receive verification codes.

Any iOS device can do so as long as it has the free [Find My iPhone](#) app installed and it uses the same primary iCloud account. To authorize another device, click Verify next to a device's name and follow the prompts.

From now on, you *must* have at least two of the following items to access iCloud:

- Your username and password
- A device you've authorized to receive verification codes
- Your Recovery Key

With any two of these, you can use your account, change your password, and access all your data. If you lose more than one, you're completely out of luck—your account will be inaccessible and not even Apple can unlock it for you.

Sign In with Two-Step Verification

With two-step verification enabled, you won't need to use both steps every single time you access iCloud, but you will need them in the following situations:

- Signing in to appleid.apple.com to manage your account
- Signing in to iCloud for the first time on a new Mac or iOS device
- Signing in to your account on the [iCloud website](#) (although you can check Remember This Browser to avoid being prompted for verification in the future when using the same browser on the same device, and you can use Find My *Device* without verifying your identity)
- Making a purchase from iTunes, iBooks, or the App Store for the first time on a new Mac or iOS device
- Contacting Apple for support with your Apple ID

In any of these situations, the process goes as follows:

1. Enter your username and password as usual.
2. From the list provided, choose a device to verify your identity:
 1. If you choose an iOS device, the Find My iPhone app displays the code in an alert. (That is, you

don't have to manually open Find My iPhone.) If your device is locked, you must unlock it to see the code.

2. If you choose a phone number, the code is sent to that number by SMS.
3. Click Send, and wait for your code to appear on the selected device.
4. Enter the number you received in step 3. Apple sends you a confirmation message by email to let you know someone (presumably you) used your two-step verification process.

From then on, you can use the app, site, or service as usual.

Tip: You can find additional details about how Apple's two-step verification works and how to set it up in the support article [Two-step verification for Apple ID](#).

USE APP-SPECIFIC PASSWORDS

Enabling two-factor authentication or two-step verification also activates another security feature: app-specific passwords. This feature applies to all third-party apps (such as Outlook, Thunderbird, BusyCal, and BusyContacts) that access your iCloud account. It does not apply to Apple apps (such as Mail, Safari, and Find My Friends), although previously it applied to FaceTime, Game Center, and iMessage accounts in Messages.

With app-specific passwords, Apple generates a special, unique password for each of the affected apps—*your ordinary iCloud password no longer works for these apps when two-step verification or two-factor authentication is active*. You can create app-specific passwords only after going through the two-factor authentication or two-step verification process, so you're still protected by both steps—but once you've done

this for a given app on a given device, you're never prompted to do so again (for that app on that device), unless you change your security settings.


To generate an app-specific password:

1. Open a third-party app that connects to your iCloud account. (If you're doing this for the first time after enabling two-step verification or two-factor authentication, you may see an error message stating that your password wasn't accepted.)
2. Locate the app's settings for username and password (often in the Preferences window). Leave the window open.
3. Visit appleid.apple.com in your browser, sign in, and verify your identity.
4. In the Security section, under "App-Specific Passwords," click or tap Generate Password.
5. Type a name for the app (such as **BusyCal iMac**) and click Create.

Tip: It's safest to create a separate password for each app on each device rather than to reuse a password in the same app on multiple devices. Thus, I suggest including the device in the name you type here, so it's easier to identify if you ever need to revoke the password (as I explain just ahead).

6. The new password appears on screen. Copy it and paste it (or type it) into the window you opened in step 2.

Tip: Apple provides no way to view your app-specific passwords after the fact. (You can see their *names*, but not the actual passwords.) So you might want to record the password in a safe place, such as your password manager, to avoid the extra step of regenerating a new password for this app if you need it again later.

If a device is lost or stolen, you may later want to revoke an app's password. Doing so prevents that app, on that device, from accessing your iCloud account. Follow the same steps, but when you get to step 4, instead click Edit and then click View History. You can then click the X  icon to revoke a single password or Revoke All to revoke them all.

Note: See the Apple support article [Using app-specific passwords](#) for further details.

Check Activation Lock

If an iOS device has Find My *Device* turned on (see [Activate Find My Device](#)), it also has Activation Lock enabled. That means no one can turn off Find My iPhone, erase the device, or reactivate it under a different account without the owner's iCloud username and password. The intention of Activation Lock is to make iOS devices unattractive to thieves by preventing anyone but the rightful owner from setting it up for their own use.

If you're thinking of selling or donating an iOS device, be sure to turn off Find My *Device* (in Settings > *Your Name* > iCloud > Find My *Device*) first in order to disable activation lock. If you're thinking of buying a used iOS device, follow the instructions on Apple's [Find My iPhone Activation Lock](#) page (see the heading "Check for Activation Lock before you buy a device from someone else").

Protect Your Privacy

At the risk of stating the obvious, any data you sync or share via iCloud travels over the internet and (with a few exceptions) is stored on Apple's servers. All your data is encrypted while in transit, and most of it is also encrypted while on Apple's servers. (For complete details, read

Apple's article [iCloud security overview](#).)

However, that encryption is irrelevant if:

- Someone guesses or discovers your password, and you don't have two-step verification or two-factor authentication enabled
- Your Mac or iOS device is stolen and you haven't enabled FileVault (Mac) or a passcode (iOS)
- Apple is legally obligated to provide your data to law enforcement or a government agency

You can and should take steps to avoid the first two problems, as I explain in a moment. But if you want to eliminate the possibility that your personal data might be handed over to the government, *you should not use iCloud at all*. I can't make it any clearer than that.

If you read Apple's [Privacy](#) page, and in particular the [Transparency Report](#) that's linked from that article, you'll see that the company is taking every possible measure to protect your privacy while complying with the law. Even so, in rare and exceptional circumstances, Apple could be forced to divulge your personal data to law enforcement or a government agency. If that's a concern for you, you'll have to give up all the benefits of iCloud to avoid this risk.

Obviously, I use iCloud myself, and I think the average person's risk of having personal information disclosed to the government is vanishingly small—but if you want an ironclad guarantee of privacy in every situation, iCloud can't possibly provide that.

That disclaimer out of the way, you can take several concrete steps to protect the privacy of your iCloud data from everyone else—including hackers, thieves, and snoops. Here's what I recommend:

- **Use a good password.** I already counseled you to [Choose a Good Password](#) as a security measure, but I

wanted to reiterate that point for the benefit of anyone not reading linearly.

- **Enable two-factor authentication or two-step verification.** Likewise, if you [Use Two-Factor Authentication](#) or [Use Two-Step Verification](#), you'll make it much harder for anyone to obtain your private data.
- **Disable syncing of sensitive data.** If you have extremely sensitive data that you want to keep entirely out of iCloud, turn off the relevant feature(s) in System Preferences > iCloud on a Mac, in the iCloud app in Windows, and in Settings > *Your Name* > iCloud on an iOS device. In particular, you might want to disable:
 - *iCloud Drive*: Data in this category includes documents (including automatically saved new documents in iCloud-enabled apps), Mail settings (signatures, flag names, rules, smart mailboxes, VIPs, and previous recipients), and text abbreviations (see [Use In-App Data Syncing](#)).
 - *iCloud Keychain*: Sensitive data stored under this heading includes scanned or written signatures from Preview or the Markup feature of Mail in Yosemite and later.
 - *Photos*: This includes iCloud Photo Library and My Photo Stream, as well as any shared albums.
- **Consider local backups for iOS devices.** Although iCloud Backup is handy (see [Back Up and Restore iOS Data](#)), the downside is that if someone obtains your iCloud username and password, that person can restore your backed-up data to another device and thus obtain all your photos, email, contacts, and so on. (The risk is greatly decreased, of course, if you use two-factor authentication or two-step verification.)

Especially if you use your iOS device to take racy or otherwise incriminating photos, also keep in mind that even though you may have turned off iCloud Photo Library and My Photo Stream, your backups will still have copies of photos you might prefer to keep out of the cloud. Anyone who needs to protect the privacy of their photos at all costs should consider turning *off* iCloud Backup and instead backing up to a Mac or PC using iTunes. See [How to back up your iPhone, iPad, and iPod touch](#) for details.

Tip: Although I haven't tried it and thus can't vouch for it, [iDrive Online Backup](#) claims to back up your iOS device's contacts, calendars, photos, and videos securely—without going through iCloud.

- **Use a passcode on iOS devices.** If your iOS device is locked with a passcode, anyone who steals or finds the device won't be able to access its contents. You can even configure your iOS device to erase its contents after ten

unsuccessful passcode attempts. Turn on a passcode in Settings > Passcode, or in Settings > Touch ID & Passcode (or Face ID & Passcode).

- **Use FileVault on your Mac.** The Mac's built-in FileVault feature encrypts everything on your Mac's hard disk or SSD to make it inaccessible without your password.

Tip: To learn much more about ways to protect your privacy online, read my book [*Take Control of Your Online Privacy*](#).

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About the Author and Publisher



Joe Kissell is the author of more than 60 books about technology. As of May 2017, he also became the publisher of Take Control Books, when alt concepts inc.—the company he runs along with his wife, [Morgen Jahnke](#)—acquired the Take Control series from TidBITS Publishing Inc.’s owners, Adam and Tonya Engst.

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When not writing or speaking, Joe likes to travel, walk, cook, eat, and practice t’ai chi. He lives in San Diego with Morgen; their sons, Soren and Devin; and their cat, Zora. To contact Joe about this book, [send him email](#) and *please* include [Take Control of iCloud](#) in the subject.

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On my site [Interesting Thing of the Day](#), which I recently resurrected after many years, I write about all sorts of interesting topics—including food, history, language, science, technology, and much more. I'd be delighted if you stopped by for a visit! You can also sign up for [joeMail](#), my free, low-volume, no-spam mailing list, or follow me on Twitter ([\\@joekissell] (<https://twitter.com/joekissell>)). To learn more about me personally, visit [JoeKissell.com](#).

Credits

- Publisher: Joe Kissell
- Editor: Tonya Engst
- Cover design: Sam Schick of [Neversink](#)
- Take Control Logo: Geoff Allen of [FUN is OK](#)

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Take Control of iCloud, Sixth Edition

ISBN: 978-1-947282-09-4

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